Amphibian Biodiversity Conservation Training Course in India

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The amphibian world is a trifle unstable at the present moment. There are mass local extinctions in some areas of the world like in Panama from a deadly fungal disease, while in other areas there is not much known about such threats like in South Asia. Amphibians happen to be the first group of organisms for which a global effort in assessing the status of all the species happened in 2004. This produced a much-needed know-how on their biological value/conservation status, and highlighted the need for research, conservation and management actions for the group globally. It is widely understood, thanks to this global assessment exercise (Global Amphibian Assessment) that 30% of the 6000 odd species of amphibians are threatened with extinction risks, some of which are becoming realities due to various anthropogenic factors. South Asia is home to more than 350 species of amphibians and a global average of 30% of the described species being threatened. Juxtaposing this fact to the number of hot-spots in the region (4 in all – Western Ghats & Sri Lanka, Eastern Himalaya, Indo-Burma and the Sunda hotspots), the statistics could prove even more serious in the coming years. A serious lapse in information for an entire order of amphibians, which has resulted in most of the caecilians assessed as Data Deficient, increases the chances of more threatened taxa within this little-known order of legless amphibians. Worse, the existence of the deadly chytrid fungus in the regions amphibian population is unknown and if present, its effects are least understood yet. The status of South Asian amphibians, therefore, can be surmised as being even more threatened than the global average due to sheer lack of information. Knowledge and capacity building is one of the most important tools to understand and conserve amphibians in South Asia.

The Durrell Wildlife Conservation Trust (DWCT) runs an Amphibian Biodiversity Conservation (ABC) course, the first one conducted in Jersey in 2006 and the second one in India, at Periyar from 10-16 December 2007. The 7-day course in the Bamboo Grove of Thekkady's famous Periyar Tiger Reserve accommodated 19 participants supported by the course, 5 participants supported by the Central Zoo Authority, 1 self supported and 5 others partially supported by the course and by the Forest Department. Resource persons included 5 full-time staff — 3 from the United Kingdom and 2 from India, and 3 part-time (2 from UK and 1 from India). The participants consisted of 6 from Sri Lanka, 1 each from Bangladesh and Nepal, 1 from Netherlands and 16 from India. Subjects ranged broadly from global and regional diversity, status, prioritization, threats, diseases, husbandry, and education to research techniques. The objective of the course was to identify and network serious amphibian biologists in various organizations of the region to be in action mode in case of emergencies like that of the Panama situation where hundreds of species of amphibians went extinct due to the debilitating effects of chytrid fungus. Since there are reasons to believe that the fungus could be present in the region, it is anybody's guess when its negative effects will show up in the amphibian populations of the region. While selecting participants, those with institutional backing, interest and dedication to conservation, amphibian biologists, and a reasonable stint in amphibian studies were the criteria included in prioritizing.

Designed, developed and photographs by Varad Giri and S.P. Vijaykumar on behalf of all participants of the ABC course to the Periyar Tiger Reserve.

At the end of the course, the participants designed a poster for the guides of the Periyar Tiger reserve to use in their work and to teach visitors about amphibian diversity of the reserve.

The course was possible due to several organisations working together, notable of which were DWCT, DICE (University of Kent), Wildlife Institute of India, Central Zoo Authority, Amphibian Ark, Conservation Breeding Specialist Group-South Asia, Zoo Outreach Organisation, Wildlife Information & Liaison Development Society, and the Amphibian Network of South Asia. The funding agencies included the Rufford Maurice Laing Foundation and the World Association of Zoos and Aquariums WAZA.

More such courses are planned and those interested can contact the Amphibian Network fo South Asia coordinator, Sanjay Molur at herpinvert@gmail.com or ansa@zooreach.org

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Central Zoo Authority

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Poster Amphibians of Periyar Tiger Reserve

The Western Ghats region in India is a global hot spots for amphibian fauna. Currently there are more than 140 species of frogs and caecilians from this mountain range. Amphibians of PTR, located in southern W. Ghats are poorly studied. Based on the data from hill ranges the PTR is expected to harbor 30-40 species.

This pamphlet was prepared during the Amphibian Biodiversity Course held from 10-16 December 2007 at PTR. This endeavour is to introduce tourists and locals to some kinds of amphibians that occur here.

Forest Frogs
Genus *Sylvirana*
Frogs of this genus can be found in stagnant water pond with vegetative cover and flowing streams in the Western Ghats. Two species, S. aurantica and S. temporalis can be found in the PTR. They possess a distinct dorso-lateral fold and have enlarged discs on forelimbs and hindlimbs.

Night Frogs
Genus *Nyctibatrachus*
These frogs are commonly known as night frogs and are found in slow and fast flowing streams. Species of this genus are found only in the Western Ghats. They can be easily distinguished by their wrinkled skin, diamond shaped pupil, and enlarged pads on the arm and feet.

Narrow Mouthed Frogs
Genus *Microhyla*
These are tiny frogs found largely in swampy areas. They can be distinguished by their smaller size and narrow snout. Microhyla ornate is a common species in PTR and could be heard calling from temporary rainwater pools in monsoon.

Gliding Frogs
Genus *Rhacophorus*
They are large sized tree frogs usually found in the forest. Females are distinctly larger than males. They build foam nests on overhanging vegetation above water. They are distinguished by their large size, webbing on the arms and legs and enlarged discs on fingers and toes.

Bush Frogs
Genus Philautus
These frogs are commonly known as bush frogs. Unlike other tree frogs, they lay eggs on land (litter, vegetation etc.) and young froglets develop directly from the eggs. Most species are arboreal an usually found on shrubs. Some occur in the forest canopy. Most of them have a metallic call.

Toads
Genus *Bufo*
Toads belong to this genus. They can be readily distinguished by their warty and dry skin and their habits to forage in the forest floor. They can be found in water only during the breeding season. Two species, *Bufo melanostictus* and *B. parietlis* is found in PTR.

Bicoloured Frog
Genus *Clinotarsus*
There is single species, *C. curtipes* in this genus. Their common name is Bi-coloured frog. They are largely found in the forest floor. Large number of the tadpoles of this species can be found along the lake shores in the PTR.. They young and adult are known to mass migrate after metamorphosis.

Caecilians
Genus *Ichthyophis*
These are leg-less amphibians and are commonly called caecilians. They are burrowing and could be seen in the leaf litter, under rocks or legs. This genus is represented by two forms one with yellow lateral stripe and the other is uni-coloured.

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