

A STATUS SURVEY OF FRESH WATER TURTLES IN SACRED PLACES IN ODISHA, INDIA

An interim report on a research project in progress

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The freshwater turtles of India occupy a wide range of aquatic habitats including many sacred places, and due to their diverse life-history traits and role as transformers of biomass, they are often considered keystone species of aquatic ecosystems.

Fresh water turtles play a number of useful functions in the ecosystem. Many are feeders on carrion, often scavenging far from their typical haunts, and help in the release of locked-up nutrients. Other turtles feed on organisms that cause diseases in humans, such as schistosomiasis, which is spread by snails, and also malaria and filaria, that are transmitted by mosquitoes. Several aquatic turtles are specialized snail eaters (complete with enlarged jaw muscles for grinding the hard shells of snails) or feeders on mosquito larvae. By eating water weeds, such as the introduced water hyacinth, turtles help maintain open water and thereby in the control of insects (such as mosquitoes) that breed in the stagnant water. In turn, turtles are food for other animals, from large fishes to water birds, monitor lizards, otters and crocodiles, not to mention humans. Without turtles, aquatic ecosystems would progressively degrade in ways yet to be understood resulting in loss of biodiversity.

The chelonian fauna of Odisha are represented by seventeen species including four species of migratory marine turtles (Family: Cheloniidae and Dermochelyidae), five species of hard-shelled fresh water terrapins (Family: Geoemydidae), six species of soft-shelled fresh water turtles (Family: Trionychidae) and two species of the land tortoises (Family: Testudinidae).

Turtles have been placed at an exalted position in Hindu mythology and worshipped as an incarnation of Lord Vishnu, whereby the universe is supported by four elephants standing on a turtle's back. Similar types of beliefs, superstitions and rituals resulted in the age old practice of keeping turtles in the many sacred ponds and fresh water bodies of Odisha. The basic aim of this study is to prepare an inventory of turtle fauna in selected temple ponds of Odisha and assess their significance in conservation.

Method

The study was carried out in different sacred tanks of the Puri and Cuttack regions (February to April 2020 and June 2020 respectively, i.e. the summer season). Dip nets were used to capture turtles. Netted animals were counted, identified to species level and

then released back into the same habitat. Information was also collected from the local people, priests, temple committees and others on the occurrence of species using photo-elicitation.

Results

PURI DISTRICT

A total of four freshwater turtle species were documented during the study: the **Indian Roofed Turtle** (*Pangshura tecta*), **Indian Tent Turtle** (*Pangshura tentoria*), **Indian Flap-shell Turtle** (*Lissemys punctata punctata*) and **North Indian Flap-shell Turtle** subspecies (*Lissemys punctata andersoni*).



Indian Roofed Turtle (*Pangshura tecta*)



Indian Tent Turtle (*Pangshura tentoria*)



Indian Flap-shell Turtle (*Lissemys punctata punctata*)



North Indian Flap-shell Turtle (*Lissemys punctata andersoni*).

Indradyumna tank. In the course of study, interaction was made with local people which revealed the tank has been polluted in recent years. The walls of the pond have been damaged and as a result, sewage water from nearby localities penetrates the holy tank, which is now in bad shape and contaminated. The Indian Flap-shell Turtle (subspecies) and Indian Tent Turtle were documented here.

Swetaganga tank. During the survey, the Indian Roofed Turtle and Indian Tent Turtle were documented. It was noticed that the monkey troupes (rhesus macaque) disrupt the turtles' basking places and disturb their habitat, and local people argued the monkeys also eat freshly laid turtle eggs.

Narendra tank. The wall or boundary of the pond is made of concrete. Around the wall wild grape (*Ampelopteris prolifera*) and trees like banyan fig (*Ficus bengalensis*), Indian plum (*Ziziphus mauritiana*) and coconut palm (*Cocos nucifera*) are associated with the tank. During the survey, the Indian Flap-shell Turtle and Indian Tent Turtles were documented and one exotic turtle species was also found in the tank. It is believed that someone may have released this turtle into the tank.

Markandeya tank. The wall of the tank is made up of concrete and surrounded by plants like the coconut palm, mango (*Mangifera indica*), jasmine (*Tabernaemontana divaricate*), giant milkweed (*Calotropis gigantean*) etc. The water is covered with green algae and duckweed (*Spirodela polyrrhiza*). Turtles occurred here before Cyclone "Fani" but now they are no longer present, according to local people.

Parbati tank. Parbati Sagar, a sacred water body near Sri Lokanath temple, has been a victim of neglect since the last century. Hundreds of devotees usually take a bath every day in Parbati Sagar before offering prayers, and the utensils of the shrine kitchen are often washed at the pond, making conditions unfavourable for aquatic flora and fauna.

CUTTACK DISTRICT

Sri Champanath temple, Athagarh

Devotees come to this place in large numbers and offer biscuits and fried paddy (puffed rice) to feed the turtles. During the survey, the **Indian Soft-shell Turtle** (*Nilssonina gangetica*), **Indian Flap-shelled turtle** and **Indian Tent Turtle** were documented in the temple pond.



Indian Soft-shell Turtle (*Nilssonina gangetica*)

The temple pond is facing great risk at present and becoming an unsuitable habitat for turtles. Much non-biodegradable waste such as plastic food wrappers, plastic bottles, soap and detergent covers and aluminum foil were seen floating on the pond surface, making unfavorable conditions for aquatic flora and fauna. Foods offered by devotees in the temple pond are not the proper diet of the turtles; they rot and add to the organic waste of the pond. There are no proper breeding sites for the turtles.

A full report will be published in a future issue of *Testudo*.