

Asiatic River Dolphins :

The Dolphins of the Indo-Gangetic Plain

(Submitted by: Nayantara Ghotge)

Introduction:

Dolphins have been known to fascinate human civilisation for several millennia. Human -Dolphin relations have been recorded with sea faring communities as far back as with ancient Hindu and Greek mythology. Their acute intelligence and the fascinating way they communicate over wide distances using SONAR in the form of patterned high pitched squeaks ,clicks and whistles has led tremendous research in their evolution, the environments they survive in and now ultimately into their struggle for survival.



(The Baiji, loc. Yangtze River China.

Photo credits: Yu Wang 1996)

Of the several species of dolphins worldwide, only four of them are freshwater dolphins. While most oceanic dolphins also are also known to live near the mouths of large rivers, these dolphins can live only in freshwater and lakes. They live in some of the largest most complex river systems on the planet, and yet remain relatively unknown to the rest of the world.

The rivers inhabited by these dolphins are the Ganga -Bhramaputra -Meghna river system (Nepal -India-Bangladesh), the Indus (Pakistan), the Yangtze - Mekong river systems (China) and the Amazon (Brazil and Venezuela). Unfortunately out of these four species the Chinese River Dolphin (*Lippotes vexilifer*) was officially declared extinct in 2006 and the same tragic fate is expected for the Ganges and Indus Dolphins. The Chinese or Yangtze river dolphins was the first cetacean species to be declared extinct due to human interference and unless drastic measures are taken it is feared that the others namely the Ganges river dolphin (*Platanista gangetica gangetica*) and the Indus blind dolphin (*Platanista gangetica minor*) may soon be on the verge of extinction as well. The IUCN red book has already categorised them as severely endangered, more as a symbol for the vanishing freshwater ecosystems in Asia.

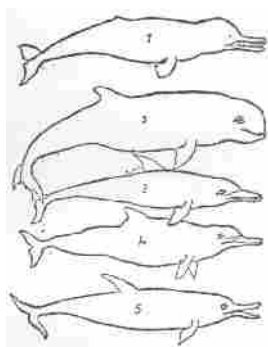


The Indus and Ganga-Bhramaputra-Meghna river system.
(Nepal, Pakistan, India)

The Yangtze and Mekong Rivers
(China)

Classification:

Kingdom: [Animalia](#)
Phylum: [Chordata](#)
Subphylum: [Vertebrata](#)
Class: [Mammalia](#)
Order: [Cetacea](#)
Suborder: [Odontoceti](#)
Family: Platanistidae



1. Gangetic Dolphin—*Platanista Gangetica*.
 2. Round-headed River Dolphin—*Orcella brevirostris*.
 3. Gadamu Dolphin—*Delphinus Gadamu*.
 4. Freckled Dolphin—*Delphinus lentiginosus*.
 5. Black Dolphin—*Delphinus pomeegra*.
- (Comparative anatomical differences, schematic)

The Indo-Gangetic Dolphins:



GANGETIC DOLPHIN

(A rescued Gangetic dolphin from fishing

net. Location: Bengal :India)

The Gangetic and Indus river dolphins vary from their marine relatives quite significantly. They are smaller in size varying between 2.1 m (average female) to 2.6 m (average male). Unlike the grey silver hue of the oceanic dolphins, these dolphins range in colour from a darker brownish gray to a pale blue-brown (often

having a white underbelly); these colours are thought to have developed more as a method of camouflage in the turbid waters they inhabit.

They have a gestation period between 8-9 months. Dolphins usually give birth to one calf at a time. Twins are a rare exception to this rule. The calves are dark brown in colour and this colour lightens as they grow older until they are around a year old. The calves swim with their mothers until they are old enough to move of on their own. Dolphins are said to be the only other animals to keep a partner for life.

These animals have a long and narrow snout and small flippers. The dorsal fin used for propulsion and steering in the oceanic dolphin is no more than a small growth on the back on these dolphins. One of the most unique features about the dolphins living in the Ganga, Bhramaputra and the Indus are the fact that they are essentially blind. Their eyes have no lens and are reduced to almost only pinholes. These animals use their eyes mainly to differentiate between the light and dark. This unusual feature is also said to have been a result from their environments. They mainly rely on echo locators (sound sensors) to search for food along the floor of the river. Another peculiarity observed, is their pattern of swimming (also observed only in the Ganges and Indus Dolphins). These animals swim on their sides, dragging one flipper against the river bed until they surface to breathe (every 30-60 seconds), which they do by rotating until they are upright. In stretches of what they consider safer water they often swim with their snouts above the water surface for longer periods of time. This unusual side swimming enables them to swim in areas where the water depth is as low as 30 cm. It also helps them negotiate with the turbulence often seen in these mountain fed rivers during the monsoons. These animals also have a dorsal air hole, similar to a blowhole for breathing. The noise made by the Ganges river dolphin when surfacing to breathe was a long drawn whispering noise earning it the name of Su-su (in India and Bangladesh).In Pakistan it is called the Bulan amongst the locals.

The teeth observed on young individuals are extremely sharp. However over a period of time the teeth get worn out, leaving only a bony stump like protrusion in older individuals. The diet of these dolphins is exclusively fish and crustacea. However the man-nature conflict has never been as high as it now appears, and thus it seems that the rapid decline in dolphins also relates to the acute food shortages they have to fact.

A recent survey in Bangladesh had shown that several individuals (perhaps amounting to as many as 6000) were said to live in the Meghna (Bhramaputra in India). While the necessity to ensure that the portions of these river inhabited by these dolphins should be made secure grounds for their survival, the continuous water diversions on the Ganga make it very difficult to maintain the necessary water level required by these animals



(A dead Indus river dolphin, during the recent dry summers, assumed as a result of large scale water diversion and climatic change)

. Dolphins in these rivers are usually seen in groups of 2-3. Previously, large groups amounting to as many as 10 -12 individuals could be seen coursing through these rivers. However such large sightings have not been seen in over 20 years, not since intensive mechanised fishing began on these rivers.

The Tragic Fate of the Baiji:

The baiji or the Goddess of the Yangtze could be traced back to as far as 10 million years ago. One of the worlds oldest cetacean species , this fragile animals survival was never under such severe threat as it has been in the last century. A survey in the late 1980's thought there might be around 400 surviving individuals. A survey in 1993, turned up only 6 individuals and although in 1997, 13 individuals were counted, it was a brief upsurge. The last survey in 2006, failed to track even one individual. The only captive Baiji, died in 2002 in Wuhan.

This river dolphin while having poor eyesight was not blind. A shy creature, it used to stay away from boats and trawlers on the river. Similar in size to the Gangetic dolphins, it also never displayed the peculiar side swimming pattern.



(The Baiji, smaller snout, eyes, small dorsal fin)

The Yangtze River dolphin is said to have died not due to indiscriminate killing but more due to entanglement with fishing gear and also due to the excess unchecked pollutants from various industries along the banks of the river. As stated by the Swiss conservationist 'August Pfluger' on the 2006 survey "While the world's attention was brought to the Giant Panda in China before it could die, the Baiji was allowed to die, lost amongst one of the world's fastest growing economies" . Unfortunately the same fate is expected for the dolphins in the Indo Gangetic plain.

Threats:

Most of these dolphins, tragically it seems live in rivers which flow through some of the world's most densely populated parts. These areas are also those where fishing contributes as a major source of income to a majority of the population. The damage caused by dolphins to fishing equipment, do not endear them greatly to the native communities. The plans made for the development of these areas, often leave little or no room for the survival of other species.

Although these dolphins are now said to be under protection, and certain areas where they are known to breed are marked out as secure non fishing, non hunting grounds, the distance covered by these rivers is vast, often amounting to over several thousand kilometres and also amongst areas prone to severe floods. The numerous millions, who fight for survival on the banks of these rivers, are unlikely to be extremely sympathetic to these poor creatures.

Previously, the monsoon season over the Indian Peninsula, was a time where no meat was to be consumed. This also meant a pause in all fishing related activities. This had a scientific backing to it as well, as this was the time when after the summer, when the young ones were born, they could swim and grow safely, so as to maintain the ecological balance in these rivers. However our new millennia of development, leaves no ground for such a break in fishing activities.

Global warming is another major threat to these fragile animals. These animals can survive a very low percentage of saline water. The run off fertilisers and pesticides which accumulate in the rivers also cause several problems both surface and subcutaneously. Low water tables in summer, rapidly melting glaciers, increase in sea water levels, and unnatural and intense storms all threaten to push these fragile species further towards extinction



(A recent sighting of the Gangetic Dolphin at the Vikramshila Dolphin Reserve, Bihar, India)

The last couple of decades have urged in dramatic development especially in countries like India. Huge dams built across the Ganga and the Indus, for large scale water diversion mainly for agricultural purposes, have resulted in tremendous losses for the natural world in these areas.

Another contributing factor to large scale deaths is the mechanisation of fishing. The use of fine grill mesh instead of the softer old fashioned fibre fishing nets, often injure the dolphins, causing a slow and painful death. These animals when trapped in a net, try and use brute force to escape, often leading to multiple injuries, both on the surface and internally.

Traditional fishing techniques which have only recently been replaced in these countries, did not harm the dolphins in this manner. However the insatiable demand for sea food, has led to what almost amounts to a fishing mafia. As with all other mafia's the loss of lives, matter little to them.

The presence of dolphins in these rivers is extremely important, as dolphins are on the highest pyramid in the marine ecological food chain. In recent years however studies have shown that the high amount of industrial waste substances which are allowed to enter these rivers untreated, have caused a series of deaths due to toxic poisoning. Presence of certain heavy metals were also found, which was a cause for concern, as this water was also consumed by so many others. The industrial pollution of rivers, also leads to a loss of essential links in the food chain. This is another large factor leading to the extinction of these species.

In the same way that the Giant Panda was brought to the world's attention, before its ultimate extinction, in India and Bangladesh, the primary focus always tends to stay on the Tiger. While annually several hundred research projects are undertaken by these governments to ensure that the tiger population thrives, the population of these dolphins continues to diminish. Although the survival of the Tiger should be a high priority, it is terribly sad to see the numerous other animals, endemic to these regions rapidly fade away. With growing awareness and technology for conservation, the conservation of these dolphins should be prioritised. Otherwise the sight of these magnificent dolphins, swimming along these vast rivers, shall soon be only a distant memory to the generations that follow.

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