We Hear From

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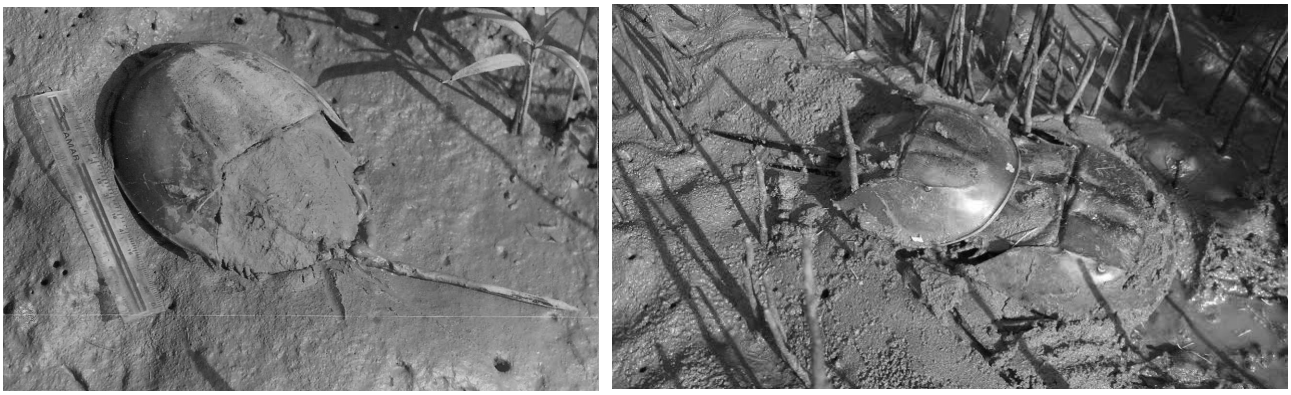
Unscientific Capturing of Horseshoe Crabs in Sunderbans

The vendor, selling mustard oil saturated blackish brown body parts of the horseshoe crabs at the railway platform of Ballygunge station, glowers me hearing my query about the medicinal values of all those body parts of horseshoe crabs. The vendor, perhaps, ascertains that I am not his actual customer and naturally he replies nothing about it. But I continue hearing him standing behind his stall at the platform shouting about medicinal values of the body parts of horseshoe crabs like cure of rheumatism and other painful diseases with inflammation in the joints and muscles inclusive the thread-uses of ring-like pieces of telson of the horseshoe crabs for stopping of urines excreted by sleeping children in bed at night. Accordingly, for preparation and sale of such horseshoe crabs medicines like these vendors of the railway platform, market place, roadside area or fair ground, firstly they have to capture and collect living horseshoe crabs from the place of their availability like river flood plains, point bars, mid channel bars, coastal and estuarine areas of the Sunderbans. As a result of such unwise capture, the numbers of horseshoe crabs has gradually been reducing day by day. Random exploitation of horseshoe crabs causes a major effect on the ecosystem which is enchained with the trophic levels of predator–prey relationships. And the uses of such indigenous medicinal applications as shouted by that vendor of the railway platform are simply bogus as his declaration for such particular



Mangroves Horseshoe crab in the point bar of Thakuran River

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medicinal benefits has not been supported by the scientific community. Only the blood collected from the body of horseshoe crabs is used for sterilization of the instruments in surgery particularly in the United States and European countries as *Limulus polyphemus*, a species of horseshoe crabs is found available in the Atlantic. The American commercial demand for the application of blood of horseshoe crab (*Limulus polyphemus*) in industrial endotoxin testing has been accelerating day by day that questions the future of this enduring species in ensuing time to come. Commercially the horseshoe crabs are returning back into the waters of Atlantic after collecting blood from their bodies through lethal biomedical bleeding process which claims a risk to horseshoe crab survival after bleeding for blood transmission as reported in the Journal of Frontiers in Marine Sciences.

Indian horseshoe crabs are found available in the estuarine and coastal areas of the Sunderbans only during their breeding season when a larger female horseshoe crab carries a relatively smaller male at her back. The male horseshoe crabs remain attached with the female's opisthosoma with his modified clasper legs. Only the male horseshoe crab of the attached pair is visible from the surface of the mud or sand where the female horseshoe crab remains within the sediments below the attached male digging a burrow and lays eggs in cluster and the male sheds sperms upon the clustered eggs. The juvenile horseshoe crabs look almost the same like an adult lacking telson, though telson ultimately grows to a young one with time. Umasankar Mondal, an island-inhabitant of the Sunderbans reported about 200 pairs of such horseshoe crabs in the river flood plain and point bar of Gomor River adjacent to his residence in Chargheri village. He added that these pairs of Indian horseshoe crabs are available during their breeding season which is generally commenced from the last week of February or first week of March and continues up to June – July, sometimes extends up to the month of August. Horseshoe crabs in pairs attend the flood plains or point bars of the rivers and estuaries along the flood tidal water during spring tide of full moon and new moon.

The population of horseshoe crabs has not only been reduced significantly due to loss of tidal flats, destruction of spawning beaches, uncontrolled fishing activities, but for random exploitation of horseshoe crabs from the coastal areas as well as of the river flood plains of the Sunderbans. Four species of horseshoe crabs are found throughout the world, of which two species, *Tachypleus gigas* and *Carcinoscorpius rotundicauda*, are found available along the east coast of India. They are called Indian horseshoe crabs and have medicinal value in their blood. One of the horseshoe crabs *Tachypleus gigas* occurs in the soft sandy beaches or tidal shoal, whereas, *Carcinoscorpius rotundicauda* prefers muddy river flood plain, point bars and mid channel bars. Apart from these two species, other two species are *Limumus polyphemus* and *Tachypleus tridentatus*, of which the Atlantic horseshoe crab (*Limulus polyphemus*) arrives on shore to spawn every year.

Regulators and environmentalists like Umasankar Mondal of Chargheri village and Sanat Purkait of Raidighi College are in their utmost endeavour for reconciliation on current trends and random exploitation of this marine living fossil of Xiphosura under the phylum Mollusca that come to the estuarine Sunderbans during their breeding season. Breeding ground of Indian horseshoe crabs is to be restored to keep healthy populations in order to maintain the ecological balance of the Sunderbans. Further, horseshoe crabs undoubtedly have medicinal values, but these values are not in applications in the Indian subcontinent erstwhile by the medical practitioners in their medical practices. Naturally, the vendors selling horseshoe crabs demonstrating its medicinal values for cure of diseases, imagined by them, learn to cure first ignorance and confusions about the horseshoe crab, the living fossil.