Horseshoe crabs are now represented by four species in the world (Sekiguchi and Nakamura, 1979) and out of them three are regarded as Asian species. Two species of horseshoe crabs namely *Tachypleus gigas* and *Carcinoscorpius rotundicauda* have been reported to be distributed along the northeast coast of Odisha state, India (Chatterji *et al.*, 1992). The population of these species is in declining trend though the breeding beaches are still remaining free from any kind of pollution. There is no known commercial exploitation of these species in Odisha yet (Mishra, 2009).

**Observation**

Khandia estuary is located at 21°19’1.65”N and 86°53’32.99”E in Balasore district of Odisha state and it is about 15 km away from known place named Chandipur. As compared to other estuary in the Balasore district, in Khandia estuary the frequencies of Horseshoe crab breeding are high (Pati *et al.*, 2015). During the regular field survey for assessment of breeding ground for horseshoe crabs on 4 Jan, 2016, group of domestic pigs were spotted feeding on stranded horseshoe crabs (Fig 1.). The pigs (*Sus domesticus*) were feeding on the ventral body parts of horseshoe crab (Fig 2.). The horseshoe crabs, while come to the shore to lay eggs, were picked up by the pigs (*Sus domesticus*), and found to feed the viscera horseshoe crab by tearing out gills and legs.

**Discussion**

Not much is known about the predation of Indian horseshoe crabs in the natural ecosystem. Eggs of American horseshoe crabs have been reported to be consumed by fishes (e.g., Eels, Catfishes) and shorebirds at Delaware Bay, USA (Mizrahi and Peters, 2009). There is very little quantitative information about the importance of fishes and benthic predators to horseshoe crab eggs and larvae. Mortality of adult horseshoe crabs, caused by natural factors and fisheries, does not have the same importance to the population growth rate as does the survival of juveniles (Grady and Valiela 2006). The large size and dense hard exoskeleton of adult horseshoe crabs certainly protects them against most of the predators, and they are not consumed with any regularity by most known predators (Botton and Shuster, 2003). However, a number of interesting examples of adult mortality are known which may be of importance to particular populations of horseshoe crabs. Reid and Bonde (1990) and Ehlinger (2003) have observed that the large American alligators (*Alligator mississippiensis*) eating adult Horseshoe crab on multiple occasions in the Indian River Lagoon, USA. Adult horseshoe crabs were a significant component of the stomach contents of loggerhead turtles (*Caretta caretta*) in lower Chesapeake Bay, USA (Keinath, 2003). Barleycorn and Tucker (2005) observed a Kemp’s Ridley turtle (*Lepidochelys kempii*) eating a horseshoe crab in Charlotte Harbor (Gulf of Mexico), Florida, USA. There were consumption records of adult horseshoe crabs by sharks (Rudloe 1981) and loggerhead turtles (Botton & Shuster, 2003), while individuals of American Horseshoe crab stranded on beaches during breeding season were substantially attacked by shorebirds, Herring gulls (*Larus argentatus*) and great black-backed gulls (*Larus marinus*) in Delaware Bay (Botton and Loveland 1993). Predation on the three Indo-Pacific species was not much documented, except that predation of *T. gigas* by crows (*Corvus splendens*) was observed in India (Debnath and Choudhury, 1988) and by Long-tailed Macaque (*Macaca fascicularis*) was observed in Tanjung Piai National Park, Johor, Peninsular Malaysia (Ang, 2016). The domestic pig (*Sus scrofa domesticus* or *Sus domesticus*), often

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**Fig 1. Pigs feeding on a Horseshoe crab.**

Photo: S. Pati

**Fig 2. Pigs (*Sus domesticus*) tearing out gills and legs of Horseshoe crabs.** Photo: S. Pati
called swine, hog, or pig and they are known as omnivores.

**Conclusion**

Globally there has been no conclusive record of pig feeding on horseshoe crab. Here, we report on the first clear predation of horseshoe crabs by domestic pigs. This may be one of the causes out of several for population declination of this species of Indian Horseshoe crab. The breeding grounds of Horseshoe crabs in Odisha are constantly being invaded by human, their domestic animal like pigs, cows, Dogs. So there is every chance of building of a prey-predator relationship due to the scarcity of food availability. Pigs are omnivorous in nature and feeds on varieties of foods and the relationships might have developed in recent times. To conserve this species in an area like Balasore coast; continuous efforts and long term awareness programmes are needed. The community people those are residing near the Horseshoe crab breeding sites has to be advised not to send their domestic pigs so that the horseshoe crab visiting for breeding purpose can be protected.

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**References**


