The Living Fossil (Horseshoe crab)

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CHAPTER - 2

Limiting factors on the global distribution of horseshoe crabs

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Abstract

There are at least four large-scale, global, environmental parameters that, spatially and temporally, set limits on the distribution of horseshoe crabs. Of these, continental geomorphology and temperature regimes are two major constraints on the wide spread distribution of horseshoe crabs. Basically, the continental shelves define the areas available to horseshoe crabs while low temperatures limit their northern most occurrences. Tidal types and benthic currents also play a role in the distribution of horseshoe crabs.

Key words: Horseshoe crabs, limiting factors, continental shelf, temperature regim, tidal influence

Introduction

Horseshoe crabs are marine chelicerate arthropod belong to the class merostomata. Despite their name, they are more closely related to spiders, ticks and scorpions than to crabs (Kamaruzzaman *et al.*, 2011). There are four extant species of horseshoe crabs, *Tachypleus tridentatus*, *Tachypleus gigas*, *Carcinoscorpius rotundicauda* and *Limulus polyphemus*. Demographic data showed their global distribution pattern where Atlantic horseshoe crab (*L. polyphemus*) are most commonly found in Gulf of Mexico, Southeast Asian horseshoe crab (*T. gigas*) inhabits in the shores of the bay of Bengal particularly along the coast of Orissa (India) to Indo-China, North Vietnam, Borneo and Celepes), *T. tridentatus* (Northern shores of Japan up to South Vietnam and along the Western islands of the Philippines) and (Mangrove horseshoe crab) *C. rotundicauda* (Northern shores of the bay of Bengal to the Southern coast of the Philippines) where they inhabit in the continental shelf region within 47.7km upto 312km (Chatterji and