Horseshoe Crabs and Limulus Amoebocyte Lysate Assay : A Retrospective

Horseshoe crabs (HCs) are the unique invertebrate marine animals belonging to phylum arthropoda. It is named as crab because earlier it was believed to be true crustaceans with hard shell and claws. But HC is more closely related to scorpions and spiders. HCs being one of the evolutions success stories, are perhaps the oldest living fossils of the earth which has been evolved much earlier than human[1]. The fossils of HC have been dated back to 360 years old, an era prior to Mezozoic period that belongs to dinosaurs. They are evolved in the shallow seas of Paleozoic era (540- 248 years ago) alongwith other primitive arthropod called trilobites, a long extinct close relative of HCs. Earlier, there were several species of HC, however, today it is restricted to 4 species only, grouped under three genera namely *Limulus polyphemus, Carcinoscorpius rotundicauda, Tachypleus gigas* and *Tachypleus tridentatus*. The four species are distinguished by their morphology such as size, colour, shape of the tail *etc*. All the species of HCs have strictly an unispecies distribution, which depend upon the interaction between their environment, behavior and biological needs for feeding and reproduction[2]. Among 4 species, *L. polyphemus* and *T. tridentus* are distributed in north south north direction whereas *T. gigas* and *C. rotundicauda* in east west east direction. *L. polyphemus* is distributed in the Atlantic coast while C. *rotundicauda,* the mangrove HC is found in south east Asia while *T. tridentatus* the common Asian HC, known as Cineese HC is distributed in Japan, China, Southern Sabah. *T. gigas,* the coastal HC commonly known as Indo Papuan king crab is reported along the coasts of India to Indo China, Indonesia, Java *etc*[3].