Pollution of the aquatic environment had received much attention and is of great concern. Environmental perturbations from expanding human population and activities associated with industry and technology have put serious stress on the aquatic ecosystem. Pollution can foster conditions that diminishes the landing of commercially important resources.

Toxicology focuses on the detection of toxic risks to organisms. This is essential for establishing preventive measures since one can only prevent risks which are known and have been identified. Toxicity testing is necessary to establish risks of pollutants to organisms. Experimental toxicology thus is concerned with the design of tests which would enable the determination of the potential of a substance to cause injury and with the development of enough data to warrant conclusions.

The continued improvement in hull coatings has prolonged vessel life and saved shipowner's considerable time and money by reducing down time and
repairs. Currently operating in 34 countries worldwide and conducting its extensive product development from its facility at Felling in northeast England, international paint has coated nearly 8000 vessels with its intersmooth and interswift TBT copolymer antifoulings.

The company conservatively estimates that by using this technology the shipping industry is saving over 200 million dollars in fuel costs per annum, in addition to savings from extended operation periods.

However, despite these obvious advantages, TBT because of its high toxicity, is now being viewed in a different light as a threat to the aquatic environment. Concern has largely been focused on TBT coatings on small craft such as workboats, fishing vessels and especially yachts. The latter have come under particular scrutiny because of the considerable periods of time for which they remain stationary in harbour, marinas and other areas of poor water exchange.

As a result, in certain parts of the world, principally Europe and the United States, legislation has been introduced to control the application of antifouling coating TBT.
Although most of the experimental work has been done on molluscs, some studies have been performed on crustaceans. Even the reports available on the effects of organotin antifouling compounds on crustaceans, most of the species used were anaecdysic forms in which molting is infrequent or seasonal. It could be reasoned that diecdysic crustaceans by virtue of their short molt cycles should be more sensitive to pollutant's stress than anaecdysic crustaceans. Furthermore, by using a diecdysic crustacean, experiments in which organotin is administered at precise stage is greatly facilitated enabling dose response thresholds to be determined. Even, earlier Indira (1988) used the diecdysic crustacean for the physiological responses to organotin compound. She had studied the respiratory physiology and histopathological studies on gonads, gills, muscles and neurosecretory system. Although significant changes in some of these physiological functions have been shown to occur following exposure to tributyltin oxide, the available data are still too sparse to permit meaningful generalization. Furthermore, it is often difficult to assess the long term ecological significance of many of the
physiological aspects. The physiological changes involved are subtle and the ultimate consequence may greatly be influenced by a wide range of inadequately known processes.

In this context an effort is made, through the present work, to study some physiological responses of the prawn, *Caridina rajaehari* to organotin antifouling compound.

The main objectives of the present study are

1. To evaluate toxicity levels of organotin to different life stages, to determine the alterations in behaviour and to investigate impact of larval development.
2. To understand the impact on colour change physiology.
3. To determine the effect on growth i.e. molting and regeneration.
4. To understand the influence on metabolism i.e. on blood glucose and digestive enzymes and finally
5. To assess the changes in organic constituents of the animal.

Finally we presume that this type of approach may be of importance in interpreting internal processes such as excretion, metabolism and neuroendocrine
regulatory processes and the importance of such processes in the life of an organism. It was thought that it may be a pavement for further studies which will reveal many more secrets of the impact of toxicant at cellular level as well as organismal activities of whole organism. This can be even related to higher species and classes and the current work can be a basic idea for the further researchers depending on present results and discussions thus enabling to safeguard the inhabitants of aquatic organisms.
CARIDINA RAJADHARI