STUDIES ON FRESHWATER OSTRACODA (CRUSTACEA) OF PUNE DISTRICT, MAHARASHTRA

A THESIS SUBMITTED TO THE UNIVERSITY OF PUNE FOR THE DEGREE OF DOCTOR IN PHILOSOPHY (PHD)

IN

ZOOLOGY

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MAY 2012

ABSTRACT

Ostracods are microcrustaceans commonly known as "Seed-shrimps" because of their tiny seed like appearance. Ostracods are very common in marine, brackish and freshwater environments. They also occur in subterranean, interstitial and even semi-terrestrial environments. They occur in all freshwater habitats, including ponds, lakes, streams, rivers, pools and all types of containers like tin cans, old tires, and tree holes. Ostracods are of great interest as a model group in studies on evolutionary biology, genetics, reproductive biology, ontology, biodiversity, ecology, biogeography and eco-toxicology The calcified carapace is well preserved in quaternary deposits making them a good model system to study palaeoecological changes.

Studies on Indian Ostracoda commenced in 1859 and at present, 208 species of non-marine Ostracoda including both extinct and extant species have been reported from India (Battish, 2000). When compared to states like Tamil Nadu, Kerala and Punjab, studies on Ostracoda in Maharashtra State have been only a few. The Pune district, in particular has largely been left unexplored with reference to its ostracod fauna. The present study includes survey of water bodies for collection, preservation and identification of ostracods from Pune district, Maharashtra, India.

Collection of 160 samples resulted in a record of 41 species belonging to three families, nine subfamilies and 19 genera. Of all the taxa, *Hemicypris* (6 spp.) and *Stenocypris* (7 spp.) were the dominant genera. This study represents about 35% of the ostracod fauna of India and about 20% of the total ostracod fauna of Oriental region. This includes 40 new records to Pune district, 21 new records to Maharashtra and seven new records to India. In addition to this, two species were recorded for the first time from the Oriental region. Report of 41 species is the highest ever ostracod diversity recorded from Maharashtra state. Five species are completely redescribed. Species level keys for the identification of studied Ostracoda are given.

Ostracods are important in the benthos. They are also abundant in aquatic vegetation. In the present study an attempt has been made to understand the role of the geographical location and some physical and chemical parameters influencing occurrence. Present study seems to be the first to provide detailed notes on the ecology of Indian ostracods.

Most of the species (21 species) recorded here are mainly distributed in Southeast Asia. A few species (5 species) recorded here are also known from Afrotropical region. Some species are circumtropical while a few others are cosmopolitan.

Most studies on Indian Ostracoda by native and foreign researchers were based on sparse and sporadic collections and so this study based on concentrated collections in one district is significant. Additional work in the State of Maharashtra may add other species to the list, but the numbers are not likely to be high. The results of this study will assist the aquatic ecologists in Maharashtra to identify this difficult group of organisms when encountered in their samples and appreciate their merits in ecological importance.