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PREFACE

Global fisheries and aquaculture to grow more rapidly in recent years, emerged as fastest growing animal food producing sector than all other food producing sectors, with an average growth of 8.9 percent per year since 1970 compared with only 1.2 percent per capture fisheries (James, 2009). The number of valid marine species 16,764, freshwater fishes was 15,170 and valid species of fishes apparently restricted to brackish water number was only 108. The sum (32,042) is more than the current total number of 31,362 valid species of fishes, because some species occur in more than one habit (Eschmeyer et al., 2010). India is one of the mega biodiversity countries in the world and occupies the ninth position in terms of freshwater mega biodiversity (Mittemeier and Mitmeir, 1997). In India there are 2,500 species of which 1,570 live in marine and 930 are freshwater (Jayaram, 2010). Taxonomy encompasses the science of classification including identifying, describing and naming of organisms. It is the study of kinds and diversity of organisms and of any and all relationships among them.

Unfortunately, taxonomic studies in the last few decades are loosing their importance especially in India. Krishnakutty and Chandrasekaran (2008) called the morphological taxonomy as an ‘endangered science’ and Khoshoo (1995) referred the taxonomists as a ‘vanishing tribe’. Rawat (2008) while narrating his experience in publishing an article on the rediscovery of a presumed extinct angiospermic species observed that “there were several occasions
when I realized that taxonomists are now second-rate scientists and taxonomy is an ignored science’.

However, increasing focus on the conservation of biodiversity all over the world led to renewed interest in taxonomy and systematics of flora and fauna. So far only one million species of animals and 0.5 million of plants have been identified and described. This forms only 10% or less than 10% of the world’s organisms. This underscores the need for discovery, identification and naming of vast number of animals and plants all over the world. Taxonomic studies are also known to have applications in areas such as medicine, agriculture pest management, pests and natural enemies in biology, microbiology, quarantine measures, fisheries, parasitological and veterinary science (Narendran, 2006).

The extinction or loss of biodiversity can be prevented only if we know the basic units of biodiversity i.e. the species and their relationships. The study of taxonomy which involves collection, description, identification and naming is called α-taxonomy. α-taxonomy will end only when the last species on earth is identified and described. Thus taxonomy and biodiversity are so intimately connected. There is an urgent need to train and more support more taxonomic experts in order to discover and understand world’s biodiversity. It is high time that we reset our priorities and make a beginning to give due importance to research in systematic (Narendran, 2006).
Estuarine region are well known as nursery and feeding grounds of many marine and brackish water animals. Fishes are no exemption. A considerable amount of work has been done on the Indian estuaries particularly Hugly-Matlah, Mahanadi, Rushikulya, Bahuda, Godavari and Vellar estuaries. Very little information is available in case of Krishna estuarine region. A modest beginning was made to study the fish fauna in the Interu mangrove swamp in Krishna estuarine region, Andhra Pradesh.

In conclusion, mention has been made on some important aspects of present research findings under chapter wise in the thesis.

**Chapter-1:** Deals with the *introduction* of fisheries, significance of fisheries, coasts and estuaries importance in India and the world.

**Chapter-2:** To emphasize the *review* of the earlier studies carried out on the estuarine ecosystems along the east coast of India.

**Chapter-3:** Presents *materials and methods* employed to study the taxonomy of the fishes, methods of statistical analysis and hydrological investigations.

**Chapter-4:** To emphasize the *ecological aspects* of the Interu mangrove swamp and fishing gear used in the swamp for capturing fish and seed of the cultivable brackish water fish and shrimp.

**Chapter-5:** Deals with the *hydrological studies* of the Interu mangrove swamp, and correlation in-between physico-chemical parameters during the study period (Dec-2007 to Nov-2009).
Chapter-6: Presents the detailed study of mangroves fauna in the Interu mangrove swamp and present status of mangroves due to anthropogenic activities as well as ecological disturbances.

Chapter-7: Deals with the taxonomic descriptions of sixty species of fish recorded from the Interu mangrove swamp with details of morphometric and meristic characters and remarks. In the result of the present investigation reveal that the 60 species of fish belonging to 47 genera of 29 families of seven orders. Further the study reports 23 species as new records to the River Krishna estuary. Of these two species are reported for the first time from India and one species is also being reported for the first time form east coast of India.

Chapter-8: Presents the occurrence of different species during different months of the study period (2007-2009) in the swamp.

Chapter-9: Explain the results and general discussion about the present study.

Chapter-10: Succinctly summarize the present study and followed by References.

In findings obtained during the research work study period were thoroughly discussed and compared with related works done in India and abroad.