

**Major Taxa of Marine
Fishes- Major Classes
General Introduction**

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The study of organic diversity has changed its objectives and enlarged its scope in the course of history as it happens in any branch of science. Our knowledge of biodiversity is incomplete. Only 1.70 million of the earth's estimated 10 - 100 million species have been scientifically erected, named and classified. In the marine biota, 340000 species are known including many unnamed species. It would be impossible to deal with the enormous diversity if it were not ordered and classified. Systematic zoology solves this problem and develop many methods and principles to make this task possible.

The systematic zoology is the science that discovers names, determines relationships, classifies and studies evolution of living organisms. It is an important branch in biology and is considered to be one of the major subdivisions of biology having a broader base than genetics, biochemistry and physiology. Systematics includes taxonomy and the term taxonomy is derived from the Greek word 'taxis' - arrangement and 'nomos' - law. The name taxonomy was first proposed by Candolle (1813). Taxonomy is defined as the theory and practice of classifying organisms. On the whole systematics is a

synthesis of many kinds of knowledge, theory and method applied to all kinds of classification of organisms.

In taxonomy, the terminology classification overlaps with identification. The term identification and classification are often confused among taxonomists. The phraseology classification refers ordering of animals into groups on the basis of their relationship. The population or groups of population are classified at all levels of taxon. In the identification of a species, the individuals are placed by deductive procedure to each taxon.

Taxonomy is classified into three stages. They are 'alpha taxonomy' which emphasis only description of new species and its arrangement in comprehensive genera. In 'beta taxonomy' the relationships are worked out on the species level and on higher categories. In 'gamma taxonomy' emphasis is given to intra specific variations and its evolutionary relationship and casual interpretation of organic diversity.

Marine Finfish taxonomy

Finfish taxonomy is the only subject in ichthyology which deals with populations, species and higher taxa. No other branch in fisheries science occupies itself in a similar manner with this level of integration in the organic world. The contribution of finfish taxonomy to fisheries science has been both direct and indirect. For conservation and management of our fishery resources the identification of finfishes is vital. Ichthyotaxonomical study reveals numerous interesting evolutionary phenomena in piscine phylogeny and the study is most indispensable for culturing fish fauna. The correct identification of a particular candidate finfish for aquaculture is very important for successful culture practices. On the whole taxonomic study on finfishes furnishes the urgently needed information about species and it cultivates a way of thinking and approaching of all biological problems which are much needed for the balance and well being of fish biology as a whole.

Pisces are the most numerous, highly diversified groups exhibiting enormous diversity in their morphology, in the habitats they occupy and in their biology. Fishes constitute almost half the total number of vertebrates (Nelson, 1976). According to Cochen (1970), the estimated number of fishes is about 20,000 - 22,000 and Nelson's (1976) estimate is 18,818 living fishes. Fishes can be simply defined as aquatic poikilothermic vertebrates and have gills throughout

their life span and limbs if any in the shape of fins. Most fishes fall into one of six broad categories. They are rover-predator, lie-in-wait predator, surface-oriented fish, bottom fish, deep bodied fish and eel like fish. Thus their ecological diversity is reflected in variety of body shapes and means of locomotion they possess. The modern living fishes could be broadly classified into two categories namely, elasmobranchs and teleosts.