STATE BIODIVERSITY STRATEGY AND ACTION PLAN (SBSAP) FOR KERALA

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Genetic diversity

Though different species of bivalves coexist, they remain as reproductively isolated populations. However, recently in addition to green and brown mussel, a third variety with light green colour periostracum and shell characteristics similar to brown mussel has been observed in the heterogeneous mussel populations in Kollam area. It is presumed that this is a hybrid of the green and brown mussel.

Conclusions

In Kerala, faunistic studies related to the bivalve resources have been negligible. The Central Marine Fisheries Research Institute, Cochin has been conducting a detailed survey of the estuaries with special emphasis on resource utilization and biology of the major species. The other research institutes and Fisheries Colleges have given emphasis to pollution and bioaccumulation studies. A review of the literature on bivalve fauna has clearly indicated the need for quantitative and qualitative assessment of the resources. Recent studies have indicated that the estuarine area of Kerala has reduced from 2426km$^2$ to 652km$^2$, due to serious alterations during the past 150 years through reclamation for agriculture and human settlement. This habitat shrinkage also calls for the need to keep record of the richness of the bivalve fauna of the State.

3.3.6 Sponge biodiversity in Kerala and its biotechnological potentials

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Introduction

Animals which exist today may be classified under two categories: 1) Protozoa or single celled animals 2) Metazoa or multi-cellular animals. Metazoan in turn, may be divided into two groups: a) Diploblastic, with two germ layers (ectoderm and endoderm) and b) Triploblastic, with three germ layers (ectoderm, mesoderm and endoderm). In sponges there are no layers as seen in diploblastic or trioblastic or triploblastic groups, but the ‘layers’, in sponges, are made of loosely arranged cells which can even change their location at will. So the ‘layers’ found in sponges are not called ‘ectoderm and endoderm’, but ‘ectosome’ and ‘endosome’, and the cells never adhere to each other firmly. The cells of sponges can be separated individually using a bolting silk or fine cloth, but this is not possible with any triploblastic or diploblastic animal. Hence sponge cells provide ample scope for a cytologist to study the physiological properties of a cell which is more primitive than that in any advanced animal.

Out of a total of 360 demospongean species (siliceous sponges) recorded from the Indian seas, a few are known from Kerala coast. But no consolidated account of these species exists in literature, due to the following reasons: 1. No paper has been published in the past dealing directly with the sponge fauna of Kerala. 2. Research organisations interested in biodiversity studies collected sponges from Kerala coast regularly, but when results are published, no details other than the name of species is given, and 3. Many students have studied sponges of Kerala coast for their M. Sc., M. Phil., or Ph. D programmes, but these are not published and the students also do not take any responsibility to publish the results and the data remain ‘inaccessible’ to the user community. All the above points indicate that whatever data available on the sponges of Kerala are scattered and hence some efforts on a war footing are needed in retrieving the data and to make them ‘available’ to the Planners and Policy-makers.

Information gaps on the sponge fauna of Kerala

Some information on the marine sponge fauna of Southern Kerala (Kovalam to Kollamcode) is available, but no information of the kind is available for the rest of the Kerala coast. Regarding freshwater and brackish water sponges it may be stated that a total of 20 species has been recorded in the past from Kerala (ZSI Report).