

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. Metazoam 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 on 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 warfooting 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).