

Differential identification of five marine sponges in the inter-tidal zone of Hormuz island (Persian Gulf) by the microstructure of the spicules

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Abstract

Sponges are multicellular animal and the members of the phylum Porifera. Aim of present study was identification of the sponges from the tidal areas of Hormuz Island by scanning electron microscope (SEM). Sampling was done from six stations in tidal areas of Hormuz Island without special instrument in spring and summer 2015. The samples were freeze-dried and transferred to laboratory. The thin sections were prepared from apical, middle and basal parts of five identified sponges. After digesting of organic material, their spicules were evaluated by SEM. The length of siliceous spicules of *Haliclona* sp. and *Niphates* sp. were 95 μm and needle-shaped, point-ended and were embed in spongin fibers. The siliceous spicules of *Hemiasterella bouilloni* were needle-shaped and point-ended spicules and 300-500 μm length with sponging. A mixture of siliceous and needle-shaped, point-ended, round-ended along with sponging fibers were observed in *Ecionemia solida*. *Chondrilla australiensis* had siliceous needle-shaped and point-ended spicules with 100-600 μm along with spongin fibers. So, evaluation of spicules by Scanning Electron Microscope could be an appropriate method for more exact identification of sponges.

Keywords: Sponges, Spicules, Inter-tidal zone, Hormuz Island, Persian Gulf, Scanning Electron Microscope.