



The diversity and importance of fungi associated with marine sponges

Journal:	<i>Botanica Marina</i>
Manuscript ID:	BOTMAR.2011.0086.R1
Manuscript Type:	Mini review
Date Submitted by the Author:	n/a
Complete List of Authors:	Suryanarayanan, T.S.; Vivekananda Institute of Tropical Mycology, Botany
Classifications:	8 Marine fungal ecology
Keywords:	marine derived fungi, fungal assocaites of sponges, bioprospecting, fungal metabolites

SCHOLARONE™
Manuscripts

Only

The diversity and importance of fungi associated with marine sponges

T.S. Suryanarayanan

Vivekananda Institute of Tropical Mycology (VINSTROM), Ramakrishna Mission
Vidyapith, Chennai 600004, India.

Abstract

A few recent investigations have established that marine-derived fungi associated with sponges are an excellent source of novel bioactive metabolites with potential to function as drugs or drug leads. Given the high species diversity and wide distribution of sponges, it is reasonable to expect that they harbour marine-derived fungi with ability to produce diverse secondary metabolites. For a more complete realisation of their technological potential, a thorough knowledge of the different taxa of marine-derived fungi associated with sponges is essential. There is hardly any information about the interplay between the sponge and its marine-derived fungi and between the marine-derived fungi and other sponge endosymbionts. Unravelling such interactions could be useful in recreating the sponge microcosm conditions *in vitro* for harvesting novel fungal metabolites. This is essential since many genes of fungal secondary metabolism are inactive in axenic cultures. This eclectic review addresses these issues by focusing on the isolation, identification, nature of association, secondary metabolites and potential interactions of marine-derived fungi of sponges and presents some future prospects regarding bioprospecting of these fungi.

Keywords

Marine-derived fungi, fungal associates of sponges, bioprospecting, fungal metabolites

Introduction

Marine fungi can be broadly classified into two distinct groups, viz, the obligate