

ABSTRACT

STUDIES ON BRIAREUM ASBESTINUM

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Chapter one of this thesis reviews the various diterpenes found in Coelenterates, with a detailed review of compounds from the gorgonian, *Briareum asbestinum*. Emphasis is placed on the briarane and asbestinane - type diterpenes.

In chapters two and three a detailed analysis of two samples of *Briareum asbestinum*, collected from different geographical locations off the coast of Tobago, West Indies, is reported. Three new compounds were isolated. Two from the first sample:

- (1) Briareolide hemiketal I, a briarane diterpene containing a hemiketal group, and
- (2) asbestinin-12, an asbestinane diterpene containing an oxetane involving C5 and C7, and
- (3) one from the second sample:

12-desbutyroxy-12-hydroxymethyl briareolate.

This is the second example of a briarane diterpene containing a C19 methyl ester.

The structures of these compounds were deduced mainly by a combination of 2D NMR spectroscopy experiments.