

ABSTRACT

Investigation of the Constituents of Two
Octocorallia and the Meliaceous Plant
Ruagea glabra

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This dissertation describes the isolation and structural elucidation of a number of natural products from (1) two Caribbean octocorals, *Briareum asbestinum* and *Erythropodium caribaeorum* and (2) the Meliaceous plant, *Ruagea glabra*. The extracts were repeatedly chromatographed to give pure metabolites whose structures were elucidated with the use of modern NMR spectroscopy including high resolution HMBC and NOESY correlations.

Part 1 discusses the chemical investigation of the two octocorals, collected off the coast of Tobago, W.I. A review of the biogenesis of these compounds and a survey of the known structural types, viz. cladiellins/eunicellins, asbestinins and briareins, is followed by a detailed investigation of *Erythropodium caribaeorum* and *Briareum asbestinum*.

From *E. caribaeorum* the known compounds, erythrolides A and B, together with a new briarein diterpene, erythrolide J, were obtained. The structure of the new diterpene is discussed.

B. asbestinum yielded the previously reported compound methyl briareolate and seven novel diterpenes.

Part 2 discusses the chemical investigation of the Meliaceous plant *Ruagea glabra*. A brief review of the literature on limonoids with emphasis on the bicyclononalides from the Meliaceae, is followed by the detailed investigation of *Ruagea glabra*, a plant collected in Costa Rica. Six limonoids were obtained from this plant. Two were the known compounds methyl angolensate and xylocarpin. The other four were novel bicyclononalides. Three of the latter compounds possess the relatively uncommon C2-OH moiety.