

ABSTRACT

Characterization of Secondary Metabolites from Barbadian Ornamental and Wild Plants

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The first chapter reviews the types of compounds isolated from the genera *Agave* L., *Furcraea*, *Nolina*, *Sansevieria*, *Cordyline*, *Draceana* and *Yucca*- in the Agavaceae family, with emphasis on the steroidal saponins. Their structural features have been determined by the use of optical rotation, melting points, mass spectroscopy, 1D and 2D NMR techniques, methanolysis and acid/alkaline or enzymatic degradation. Some of these compounds are of biological and economic importance.

Chapter two deals with the compounds isolated from the Barbadian ornamentals *A. americana*, *A. barbadensis* and *F. selloa marginata* and gives details on their structural elucidation. This appears to be the first phytochemical investigation on *A. barbadensis* and three homoisoflavonoids, two of which are known and a known steroidal saponin were isolated. This is also the first report of steroidal saponins, two known and two novel, from the plant *F. selloa marginata*. It is hoped that the novel compounds isolated will be of biological importance.

and that this research will inspire others to examine the flora and fauna of our island.

The third chapter reviews the compounds isolated from the wild plant *Morinda citrifolia* and reports on the compounds obtained from a further chemical investigation on the leaves and fruit of this plant. This plant is known worldwide as the 'noni' plant and is well known on the island as the 'dog-dumpling' plant. Its extracts are supposedly used to cure all kinds of ailments.

The fourth chapter reviews the flavonoid glycosides isolated from the genus *Bryophyllum* and reports on the chemical investigation of *B. pinnatum*. In Barbados, this plant is referred to as the 'Wonder-of-the-world' plant.