ABSTRACT

Investigation of Selected Species of the Annonaceae and Meliaceae

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PART 1 of this thesis deals with the chemical investigation of three local Annonaceae species.

Chapter One reviews the various compounds previously found in Annonaceous plants, while **Chapter Two** focuses on and reviews the interesting anti-cancer compounds - the Annonaceous acetogenins.

In **Chapter Three**, a detailed study on *Annona montana* is reported. From this plant, two known Annonaceous acetogenins were obtained from the seeds and three novel ones from the leaves. The structure of a new hemiketal lactone acetogenin is discussed.

Chapter Four discusses the chemical investigation of *Rollinia mucosa* (leaves) which yielded five lignans of the furofuranic type.

Chapter Five discusses the isolation and characterisation of four known kaurane diterpenes from the seeds of *Annona glabra*.

PART 2 is entitled "Limonoids from *Swietenia macrophylla*".

Chapter Six gives an overview of limonoids and then discusses previous phytochemical studies on *S. macrophylla*.

Chapter Seven discusses the isolation and structural elucidation of fifteen limonoids from *S. macrophylla* seeds, collected locally. Of these compounds twelve were bicyclononanolides, three being novel. The novel compounds were unique in that one was oxygenated at all the positions that are usually oxygenated, another possessed the rare C14/C15 double bond, and in the third the δ-lactone ring was opened.

The results of antifeedant tests on some of these compounds are also reported.