

## ABSTRACT

This thesis describes the structure elucidation of the compounds isolated from three Jamaican plants Podocarpus urbanii, Sterculia apetala and Maytenus jamaicensis.

Part I of this thesis comprises the investigation of the constituents of Podocarpus urbanii. The report of a number of anti-tumour compounds from other species of the genus Podocarpus has prompted our investigation to this plant. In this part, the isolation of the compounds A, B, C, D, E, F, G, H and I from P. urbanii are discussed. All the abovementioned compounds except the biflavanoid, compound I, mol. formula  $C_{34}H_{26}O_{10}$ , were fully characterised.

Compound A, sciadopitysin (42, page 44), and compound E, podocarpusflavone A (51, page 56) are biflavanoids.

Compound D, nagilactone C (71, page 91), compound F (75, page 94), compound B, 2-3 dihydropodolide (90, page 103) and compound H, podolide (93, page 109) are norditerpene dilactones.

Compound F (75) is a new compound and it adds to the list of norditerpene dilactones isolated from various Podocarpus species.

Compound B (90), although mentioned previously in the literature was not fully characterised before. Compound C,  $\beta$ -sitosterol (94, page 112) is a common plant sterol. Compound G (97 or 98, page 116) is a triterpene and is a new member of the

ecdysone type of compounds which are well known as insect moulting hormones. Brief reviews of the biflavonoids and norditerpenes have been included in this part.

Part II comprises the isolation and characterisation of compound K, 4-O- $\alpha$ -D-ribofuranosyl-D-galactopyranose (101, page 163) from the seeds of Sterculia apetala. This disaccharide has not been reported to date and therefore is the first example of this disaccharide type to have been isolated and characterised from a higher plant.

Part III commences by reviewing the literature of various types of compounds isolated from different Maytenus species. The isolation and characterisation of two epimeric triterpenes, friedelinol (31, page 197) and epi-friedelinol (30, page 195) from Maytenus jamaicensis have been discussed. This is the first report of the isolation of these epimeric triterpenes from a Maytenus species.