ABSTRACT

This thesis is one in the series on the phytochemical investigation of the *Amyris* genus of Jamaica.

Part I briefly reviews the medicinal value of compounds resembling the metabolites isolated from the *Amyris*, namely coumarins and phenylethylamines.

Part II deals with the identification of five compounds isolated from leaves and twigs of the *A.balsamifera*. These compounds include: 2(3,4-dimethoxyphenyl)-5-phenyloxazole, Balsoxin (a new compound); N-methyl-p-methoxyphenyl-ethylcinnamide, Herclavin; 7-methoxy-6-(2-methyl,2,3-epoxybutanoyl-coumarin, Hopeyhopin;5-methoxy-8-0-methyl-2-butenyl)-furanocoumarin, Phellopterpin;and 5-methoxy-8- 0-(2-methyl 2, 3-dihydroxy)-furanocoumarin, Byakangellicin.

Part III describes the separation, identification and synthesis of isobutyrylchromenylated tyramide and isobutyrychromenylated tyramide. These compounds are metabolites of *A.plumieri* and were isolated as an intimate mixture in a previous investigation. Considerable difficulty was encountered in determining their identity.