ABSTRACT

THE CONSTITUENTS OF *LAPORTEA AESTUANS* AND *SERJANIA PAUCIDENTATA*

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In this thesis, the extractives of the plants *Laportea aestuans* (Urticaceae) and *Serjania paucidentata* (Sapindaceae) were investigated for their more interesting chemical constituents.

Chapter 1 outlines the rationale employed in this study of the natural products from plants and Chapter 2 is a review of previous work done on the nettle plants of the Urticaceae family.

Chapter 3 describes some of the extractives found in *Laportea aestuans*. These included substantial quantities of crystalline potassium nitrate (0.34% of the dried plant material) intimately mixed with organic bases. These constituents of the plant extracts contributed significantly to lethality in the brine shrimp (*Artemia salina*) used in the bioassays. The organic bases were responsible for the high alkalinity observed in the plant extracts. One of the bases isolated from the plant was identified as choline and another was characterized as an unstable guanidino amino compound in accordance with

chromatographic and spectroscopic data. A mixture of methyl esters of aliphatic acids was also isolated from L. aestuans.

The final chapter describes a phytochemical screening of the bark of Serjania paucidentata which focused on the saponins and tannin constituents. The major aglycone in the saponins was identified as oleanolic acid and the condensed tannins were shown to be procyanidins and prodelphinidins.