

ABSTRACT

APPROACHES TO THE SYNTHESIS OF AZAROTENOIDS AND NOVEL HETEROCYCLIC SALTS

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In Chapter one of this thesis, the pharmacological activity of benzofuran-2-carboxylic acid (coumarilic acid) which we have used as the basis for some of the compounds studied and reported in this work is detailed. A synopsis of the synthesis of coumarilic acid is also described.

Some reactions of coumarilic acid with 2-aminopyridine and its analogues are explored in Chapter two, and a study is presented on the pesticidal effects of the amides obtained from these reactions, against the sweet potato weevil, *Cylas formicarius elegantulus* (Summer). The first successful synthesis of a novel tetracyclic salt (**A**) is also reported.

Approaches to the synthesis of azarotenoids are presented in chapter three. This work has led to the development of a novel synthetic approach which, whilst

directed specifically to the 7-azarotenoid, is flexible and of general applicability in the rotenoid and azarotenoid series. A brief review of the pharmacology and synthesis of rotenoids and thiorotenoids is also presented in chapter three.

