ABSTRACT

This thesis is mainly concerned with the chemistry of chromones from Spathelia sorbifolia. In Part I, a review of chromones is presented. The review includes discussion of chemical and spectral properties of chromones as well as a survey of naturally occurring chromones and their presumed biogenesis. Synthetic routes to chromones are also reviewed.

Previous work on S. sorbifolia had yielded seven chromones. In Part II, a modified method for the separation of the crude extract leading to the isolation of four more chromones from this source is described. One of these, alloptaeroxylin methyl ether, had been obtained from other sources, but the other three, sorbifolin 5-methyl ether, anhydrosorbifolin and 6-(3',3'-dimethylallyl)-alloptaeroxylin, are new. Two 2-quinolones, the known N-methylflindersine and the new compound N-methyl-4,7,8-trimethoxy-2-quinolone, were also obtained in small amounts. The taxonomical significance of the occurrence of these alkaloids in S. sorbifolia is discussed. Possible methods for the elaboration of the side chain in sorbifolin are discussed and the use of one of these in synthesising sorbifolin is described. Possible biogenetic schemes leading to the 2,2-dimethylchromene system in nature are also outlined.