SOME AROMATIC COMPOUNDS FROM DICHLOROMETHANE EXTRACT OF SALICORNIA RAMOSISSIMA

Vera M.S. Isca,[a] Ana M.L. Seca,[a,b] Diana C.G.A. Pinto,[a] Artur M.S. Silva[a] and Helena Silva[c]

[a] Department of Chemistry & QOPNA, University of Aveiro, 3810-193 Aveiro, Portugal; [b] DQCTD, University of Acores, Rua Mãe de Deus, 9501-801 Ponta Delgada, Portugal; [c] Department of Biology, University of Aveiro, 3810-193 Aveiro, Portugal; e-mail: veraisca@ua.pt

Introduction

Plants have been the most important source of drugs and drug leads in history,[1] highlighting the fact that they are the basis of the traditional medicine. Indeed herbal medicines still demand and their popularity as source of new active compounds for drug discovery is increasing.[2]

**Salicornia ramosissima** J. Woods, is an annual halophyte, confined to saline habitats,[3] widely distributed in the salt marsh of Ria de Aveiro (Portugal) and also present in many salt marshes of the Iberian Peninsula.[4] Our interest in the phytochemical study of this specie, which belongs to the genus Salicornia and family Chenopodiaceae, is based on previous knowledge that plants of this genus presented compounds such as flavonoids,[5] chromones[6] and alkaloids[7] which are well-recognized for their biological activities. **Salicornia ramosissima** was subject to some studies of growth conditions and salinity,[4,8] but its phytochemical composition remains unknown.

Material and Methods

The analysis of the dichloromethane extract from **S. ramosissima** aerial parts allowed the isolation of some aromatic compounds, from which we present here the unequivocal structure elucidation of three examples, 7-hydroxy-6-methoxy-2H-chromen-2-one 1, commonly known as scopeletin, ethyl o-hydroxycinnamate 2 and (E)-fatty alcohol ferulic acid derivative 3.

Results and Discussion

The analysis of the dichloromethane extract from **S. ramosissima** aerial parts allowed the isolation of some aromatic compounds, from which we present here the unequivocal structure elucidation of three examples, 7-hydroxy-6-methoxy-2H-chromen-2-one 1, commonly known as scopeletin, ethyl o-hydroxycinnamate 2 and (E)-fatty alcohol ferulic acid derivative 3.

Natural hydroxycinnamates are extremely potent antitumor agents, possibly due to the α,β-unsaturated carbonyl moiety that is often employed in the design of anticancer drugs.[9]

Scopoeletin is usually used in traditional Chinese medicine due to its wide range of biological activities, such as anti-inflammatory and antioxidant.[10] This is a known natural compound but it is reported by the first time in **Salicornia** genus.

Acknowledgments

Thanks are due to the University of Aveiro, Fundação para a Ciência e a Tecnologia (FCT) and FEDER for funding the Organic Chemistry Research Unit (project PEst-C/UI0062/2011) and Portuguese National NMR Network (NRNRM). The authors also wish to acknowledge generous contribution of José M. G. Pereira for the original photographs of Salicornia in Aveiro region.

References