Phytochemical study of aerial parts of Cardiospermum corindum L. (Sapindaceae)

F.L. SILVA¹, T.L. FONSECA¹, A.S.S. LÚCIO¹, J.F. TAVARES¹, J.M. BARBOSA-FILHO¹

¹Laboratório de Tecnologia Farmacêutica, Universidade Federal da Paraíba, Cx. Postal 5009, 58051-970, João Pessoa, PB, Brazil

Keywords: artemanoflavone; Cardiospermum corindum.

Introduction: Cardiospermum corindum is an herb widely distributed in Brazil. It is popularly known as balãozinho and campapu, being commonly used for liver disorders and rheumatism. Despite its use in popular medicine, there are few studies reporting its chemical constituents and biological activities. Considering that other species of this family contain significant chemical compounds of great biological value, this work describes the phytochemical study of the aerial parts of the plant.

Experimental part: Aerial parts of C. corindum were collected in Santa Rita, Paraíba state, Brazil. The specie was dried in a circulating air oven at 40 °C. The ethanol extract was obtained by exhaustive maceration using ethanol (96%) at room temperature. The dry hydroethanolic extract was dissolved under stirring with methanol (30%) at room temperature for 60 min. The solution was fractionated until exhaustion with an increasing polarity solvent gradient: n-hexane, dichloromethane and n-butanol. The dry dichloromethane fraction was fractionated in silica gel column chromatography (CC) using silica gel 60 as stationary phase and mobile phase with increasing polarity solvent gradient: n-hexane, ethyl acetate and methanol. Fractions 32-34 were pooled after observation of only one spot of same Rf when analyzed under TLC. The structure of the isolated substance was analyzed by ¹H (500 MHz) and ¹³C (125 MHz) NMR. The substance was identified as artemanoflavone (47 mg).

Results/Discussion: The ¹H NMR signals obtained for the compound were of a flavonoid. A signal observed at δH 6.56 (s, 1H), assigned to methynic hydrogen, defined the structure as flavone. The position of the methoxyl in C-6, ring A, was determined by NOESY experiment. All the ¹H and ¹³C NMR assignments were confirmed by comparison of spectral data for artemanoflavone, described in the literature.

Conclusion: Artemanoflavone has never been reported either from Sapindaceae family. The occurrence of this flavone in C. corindum is an important fact for chemotaxonomic studies.

Support by: CAPES