



Anticholinesterase activity evaluation of alkaloids and coumarin from stems of *Conchocarpus fontanesianus* (A. St.-Hil.) Kallunki & Pirani (Rutaceae)

Rodrigo Sant'Ana Cabral^(1,2), Maura Casari Sartori⁽²⁾, Inês Cordeiro⁽³⁾, Carmen Lucia Queiroga⁽⁴⁾, Marcos Nogueira Eberlin⁽⁵⁾, João Henrique Ghilardi Lago⁽⁶⁾, Paulo Roberto Hrihorowitsch Moreno⁽⁷⁾ & Maria Cláudia Marx Young⁽²⁾

⁽¹⁾Pós-Graduação em Biodiversidade Vegetal e Meio Ambiente, Instituto de Botânica, São Paulo, SP, rscabral@gmail.com; ⁽²⁾Núcleo de Pesquisa em Fisiologia e Bioquímica, Instituto de Botânica; ⁽³⁾Núcleo de Pesquisa Curadoria do Herbário SP, Instituto de Botânica; ⁽⁴⁾Centro Pluridisciplinar de Pesquisas Químicas, Biológicas e Agrícolas, UNICAMP, Paulínia, SP; ⁽⁵⁾Laboratório Thomson Espectrometria de Massa; UNICAMP; ⁽⁶⁾Departamento de Ciências Exatas e da Terra, Universidade Federal de São Paulo; ⁽⁷⁾Instituto de Química, Universidade de São Paulo.

Conchocarpus fontanesianus, popularly known as pitaguará, is Brazilian native and endemic species, distributed in Atlantic Rain Forest, mainly in the states of São Paulo and Rio de Janeiro (Pirani, 2002). This work investigated the anticholinesterasic potential of alkaloid fraction and their purified compounds from stems of *Conchocarpus fontanesianus* collected at Ecological Station Jureia-Itatins, Nucleus Arpoador/Peruíbe, São Paulo State, Brazil. The ground stems of *C. fontanesianus* (534.23 g) were submitted to extraction with ethanol (EtOH) under pressure (1500-1700 psi) at 60°C using an ASE300 extractor (DIONEX). The ethanolic crude extract (14.53 g) was partially dissolved in aqueous acid solution (0.1 M HCl), filtered and the soluble acid solution was partitioned with hexane, yielding the hexane fraction (0.0963 g). The acid aqueous fraction was treated with NH₄OH (pH 10) and partitioned with CHCl₃ obtaining the alkaloid fraction (0.3134 g). The alkaloid fraction (313.4 mg) was purified on preparative TLC, eluted with CHCl₃:MeOH:NH₄OH (90:7.5:2.5 v/v). Anticholinesterasic activity was evaluated by TLC and microplate assays using Marston *et al.* (2002) and Rhee *et al.* (2001) methods, respectively. From alkaloid fraction (313.4 mg) were purified several compounds, a mixture of furoquinoline alkaloids, dictamnine and γ -fagarin (26.5 mg), the furoquinoline alkaloid skimianine (31.0 mg), the 4-quinolone alkaloid, 2-phenyl-1-methyl-4-quinolone (27.7 mg) and the furanocoumarin, marmesin (35.2 mg). This work is the first phytochemical study performed with this species.

Key words: *Conchocarpus fontanesianus*, Rutaceae, Atlantic Rainforest, anticholinesterase activity, alkaloids, coumarin.

Financial support: CNPq, FAPESP.