



Chemical Composition of Essential Oils and Anticholinesterasic Activity of *Eugenia sulcata* Spring ex Mart.

Barbara G. LIMA ¹, Luis A.C. TIETBOHL ¹, Caio P. FERNANDES ¹, Rodrigo A.S. CRUZ ¹, Gisele da S. BOTAS ¹, Marcelo G. SANTOS ², Moacélio V. SILVA-FILHO ³ & Leandro ROCHA ^{1*}

¹ Laboratório de Tecnologia de Produtos Naturais and

³ Departamento de Farmácia e Administração Farmacêutica, Faculdade de Farmácia, Universidade Federal Fluminense,

Rua Doutor Mário Viana 523, Santa Rosa, CEP 24241-000, Niterói, RJ, Brazil

² Departamento de Ciências, Faculdade de Formação de Professores,

Universidade do Estado do Rio de Janeiro, Dr. Francisco Portela 1470,

CEP 24435-000, São Gonçalo, RJ, Brazil

SUMMARY. The chemical composition of the essential oils from leaves and stems of *Eugenia sulcata* Spring ex Mart., obtained by hydrodistillation, was analyzed by GC-MS and quantified by CG-FID. In all, 37 components were identified and sesquiterpenes represented the largest fraction of both oils, in the leaves (58.2 %) and stems (85.3 %). The major constituent found in the essential oil from leaves and stems of *E. sulcata* was β -caryophyllene, corresponding to 24.6 % and 18.8 %, respectively. The substances α -cubebene (1.1 %), β -copaene (0.5 %), cis-muurola-3,5-diene (0.6 %), cis-muurola-4(14),5-diene (1.3 %), γ -himachalene (2.0 %), epizonarene (0.8 %), trans-calamenene (4.4 %) and trans-cadina-1,4-diene (3.4 %) were identified for the first time as chemical constituents of essential oil from leaves of *E. sulcata*. To our knowledge, this was the first phytochemical contribution to the essential oil from stems of *E. sulcata*. It was also performed the acetylcholinesterase inhibitory bioassay of the essential oil from leaves of *E. sulcata*, which was considered active and exhibited an IC₅₀ value of $4.66 \pm 0.48 \mu\text{g}\cdot\text{mL}^{-1}$.

KEY WORDS: Acetylcholinesterase, β -caryophyllene, Essential oil, *Eugenia sulcata*, Myrtaceae.

* Author to whom correspondence should be addressed. E-mail: lean@vm.uff.br