



Chemical and Biological Study of Essential Oils from *Eugenia pruniformis* Cambess., an Endemic Species from Brazilian Atlantic Forest

Ricardo D.D.G. ALBUQUERQUE ¹, Luis A.C. TIETBOHL ¹, Caio P. FERNANDES ^{1,3},
Pedro P. COUTEIRO ², Débora N. EIRIZ ³, Marcelo G. SANTOS ⁴, Moacélio V. SILVA-FILHO ⁵,
Gutemberg G. ALVES ^{6,7}, Róber BACHINSKI ^{6,7} & Leandro ROCHA ^{1,2,3*}

¹ Laboratório de Tecnologia de Produtos Naturais, ² Programa de Pós-Graduação em Ciências Aplicadas a Produtos para Saúde, Departamento de Farmácia e Administração Farmacêutica, ³ Departamento de Tecnologia Farmacêutica, ⁵ Departamento de Farmácia e Administração Farmacêutica, Faculdade de Farmácia, Universidade Federal Fluminense, Rua Doutor Mário Viana 523, CEP 24241-000, Niterói, RJ, Brazil

⁴ 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

⁶ Unidade de Pesquisa Clínica, Hospital Universitário Antônio Pedro, Universidade Federal Fluminense, Rua Marques de Paraná, 303/emergência - 4º andar, Centro, CEP: 24033-900, Niterói, RJ, Brazil

⁷ Programa de Pós-graduação em Biologia das Interações (PPBI)/UFF Universidade Federal Fluminense, Morro do Valonguinho S/N0, CEP 24001-970, Niterói, RJ, Brazil

SUMMARY. *Eugenia pruniformis* Cambess. is an endemic species from Brazilian Atlantic Forest. Essential oils from leaves and fruits from this species were obtained by hydrodistillation and analyzed by GC-MS/CG-FID. In all, 25 compounds were identified, with predominance of sesquiterpene hydrocarbons in both plant parts. The major compounds were β -caryophyllene, bicyclogermacrene, germacrene D, δ -cadinene and α -copaene. Antioxidant activity was performed for essential oil from leaves using ORAC method, showing value of 0.30 ± 0.06 mmol TE/g. Anticholinesterasic evaluation was also performed for this oil, indicating that it inhibited acetylcholinesterase, showing an IC₅₀ of 1798 μ g/mL. These results indicate that this essential oil may be considered as a potential source of substances for Alzheimer's disease Treatment. To our knowledge, these are the first contributions to biological and phytochemical characterization of *E. pruniformis*, an almost unexplored species from Brazilian Atlantic Forest.

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

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