



CHEMICAL COMPOSITION AND ANTIMYCOPLASMIC ACTIVITY OF *Eugenia mattsii* LEAVES, STEMS AND ISOLATED COMPOUNDS

Giovana Vechi^a, Adrielli Tenfen^a, Ariela Maína Boeder^b, Lorena Hernandez-Gómez^c, Caio Maurício Mendes de Córdova^b, Valdir Cechinel Filho^a

^a Programa de Pós-Graduação em Ciências Farmacêuticas, Universidade do Itajaí, CEP: 88302-901, Itajaí, SC, Brasil; *e-mail: giovanavechi@gmail.com

^b Departamento de Ciências Farmacêuticas, Universidade Regional de Blumenau, CEP: 89030-001 Blumenau, SC, Brazil;

^c Centro de Investigación en Productos Naturales - CIPRONA, Universidad de Costa Rica, San Pedro, San José, Costa Rica.

Introduction: *Eugenia mattsii* (Myrtaceae), belongs to a genus with a great diversity of bioactive substances that are used in traditional medicine to cure various diseases. The aim of this study was to evaluate the chemical composition and antimicrobial activity of leaves and stems of *E. mattsii*. **Methods:** Stems and leaves of the plant were collected in Itajaí in august 2016. Phytochemical analysis started with maceration of both parts, separately, with methanol for 7 days. The crude methanolic extracts (CME) were then filtered and partitioned with different solvents, providing their respective chloroform (CLF) and acetyl acetate fractions (EAF). Only the leaves fractions were submitted to chromatographic column, in order to isolate the major compounds that were identified spectroscopic conventional techniques. All extracts, fractions and isolated substances, were screened for antimycoplasmic activity against non-cell wall bacteria, known as mollicutes by determining the minimum inhibitory concentration (MIC). Identification and quantification of isolated compounds in extracts and fractions were performed by UPLC-PDA/ESI+ - QTOF. **Results:** Phytochemical analyses evidenced the presence of three phenolic compounds, pinostrobin and cryptostrobin (from the CLF) and -(-)catechin (from the EAF). Both methanolic extracts showed moderate antimycoplasmic activity (MIC = 250-500 µg/mL). The fractions exhibited better effect, with MIC = 125-1000 µg/mL⁻¹, specially the ethyl acetate leaf fraction, which presented MICs of 125-250 µg/mL for all strains tested. Pinostrobin showed promising antimycoplasmic activity against *M. pneumoniae* FH, *M. capricolum* subs. *Capricolum*, *M. mycoides* subsp. *Capri* and *M. genitalium* (MIC = 12.5-50 µg/mL). Cryptostrobin also presented antimycoplasmic activity against *M. capricolum* subs. *Capricolum*, *M. genitalium* and *M. pneumoniae* FH (MIC = 100 µg/mL). The concentration of pinostrobin and cryptostrobin were higher in CLF, as expected, since both are non-polar compounds. Both compounds are more abundant in the leaves than in the stems (leaves presented 29.8 mg/g of pinostrobin and 9.9 mg/g of cryptostrobin whereas the stems presented 19.5 and 5.0 mg/g, respectively). Both substances could be associated with the good results found for CLF and CME, since its concentration in both extracts are significant. -(-) Catechin was more abundant in the leaves (58.8 mg/g) than in the stems (37.7 mg/g), but only in the acetyl acetate fraction, due to its polar property. This substance



**I SIMPÓSIO INTERNACIONAL
EM INVESTIGAÇÕES
QUÍMICO-FARMACÊUTICAS**


UNIVALI
Itajaí, Santa Catarina, Brasil
11 a 12 de dezembro de 2017

was also tested for antimycoplasmic activity, but was inactive until 100 µg/mL.

Conclusions: *E. mattsii* presented antimollicute activity against some mycoplasma strains, related, at least in part, to the presence of pinostrobin, the major compound found in the leaves and stems of the plant.

Support: CAPES, CIPRONA (UCR-Costa Rica, FURB, UNIVALI).