

Antileishmanial, Antimalarial and Antimicrobial Activities of the Extract and Isolated Compounds from *Austroplenckia populnea* (Celastraceae)

Sérgio F. Andrade^a, Ademar A. da Silva Filho^b, Dimas de O. Resende^b, Márcio L. A. e Silva^b, Wilson R. Cunha^b, N. P. Dhammika Nanayakkara^c, and Jairo Kenupp Bastos^{d,*}

^a Núcleo de Investigações Químico-Farmacêuticas (NIQFAR), Universidade do Vale do Itajaí-UNIVALI, Itajaí, SC, Brazil

^b Laboratório de Química de Produtos Naturais, Universidade de Franca, Av. Armando Sales de Oliveira, 201, CEP 14404-600, Franca, SP, Brazil

^c National Center for Natural Products Research, The University of Mississippi, Oxford, MS, USA

^d Faculdade de Ciências Farmacêuticas de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto, SP, Brazil. Fax: + 55-16-633-1941. E-mail: jkbastos@fcrp.usp.br

* Author for correspondence and reprint requests

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Austroplenckia populnea (Celastraceae), known as “marmelinho do campo”, is used in Brazilian folk medicine as antimicrobial, anti-inflammatory, and antitumoural agent. The aim of the present work was to evaluate the antimicrobial, antileishmanial and antimalarial activities of the crude hydroalcoholic extract of *A. populnea* (CHE) and some of its isolated compounds. The phytochemical study of the CHE was carried out affording the isolation of methyl populnoate (**1**), populnoic acid (**2**), and stigmast-5-en-3-*O*- β -(*D*-glucopyranoside) (**3**). This is the first time that the presence of compound **3** in *A. populnea* is reported. The results showed that the CHE presents antifungal and antibacterial activities, especially against *Candida glabrata* and *Candida albicans*, for which the CHE showed IC₅₀ values of 0.7 $\mu\text{g mL}^{-1}$ and 5.5 $\mu\text{g mL}^{-1}$, respectively, while amphotericin B showed an IC₅₀ value of 0.1 $\mu\text{g mL}^{-1}$ against both microorganisms. Compounds **1–3** were inactive against all tested microorganisms. In the antileishmanial activity test against *Leishmania donovani*, the CHE showed an IC₅₀ value of 52 $\mu\text{g mL}^{-1}$, while compounds **2** and **3** displayed an IC₅₀ value of 18 $\mu\text{g mL}^{-1}$. In the antimalarial assay against *Plasmodium falciparum* (D6 and W2 clones), it was observed that all evaluated samples were inactive. In order to compare the effect on the parasites with the toxicity to mammalian cells, the cytotoxicity activity of the isolated compounds was evaluated against Vero cells, showing that all evaluated samples exhibited no cytotoxicity at the maximum dose tested.

Key words: *Austroplenckia populnea*, *Leishmania donovani*, Populnoic Acid