Phytochemical and Antinociceptive Properties of *Matayba elaeagnoides* Radlk. Barks

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A mixture of triterpenes named lupeol (**1**), α-amyrin (**2**), β-amyrin (**3**), and β-sitosterol (**4**) has been isolated from the hexane fraction of *Matayba elaeagnoides*. In addition, scopoletin (**5**), umbelliferone (**6**), 3β-*O*-D-glycopyranosyl-sitosterol (**7**) and betulin (**8**) were isolated from the chloroform fraction. All the structures were identified by spectroscopic techniques in accordance with literature data. The extracts (hydroalcoholic and methanolic) and some fractions (hexane, chloroform, ethyl acetate and butanol) exerted promising antinociceptive effects in mice. In addition, we have tested the pure compound betulin (**8**). When analyzed against induced pain using the writhing test (3–10 mg kg^{-1}, i.p.), betulin showed a dose-dependent effect with a calculated ID_{50} value of 7.74 (6.53–9.17) mg kg^{-1} [17.5 (14.7–20.7) μmol kg^{-1}] and a maximal inhibition (MI) of 58.3% in relation to the control group. When evaluated in the formalin test (3–10 mg kg^{-1}, i.p.), this compound inhibited both phases of pain (neurogenic and inflammatory pain), with calculated ID_{50} values of 18.3 (17.7–18.9) and 8.3 (7.7–8.9) mg kg^{-1} [41.5 (38.4–42.7) and 18.8 (17.6–19.9) μmol kg^{-1}] and maximal inhibition of 40.8 and 64.39% for the first and second phases, respectively. Using the same models, this compound was several times more active than two clinically used drugs, namely aspirin and paracetamol, suggesting that its main active principle is related to the antinociceptive effect found for the chloroform fraction of *M. elaeagnoids* barks.

Key words: Matayba elaeagnoides, Antinociceptive, Betulin