

## Phenolic profile and *in vitro* antioxidant capacity of ethanolic extracts from fruits and seeds of *Eugenia involucrata* DC.

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*Eugenia involucrata* DC. (Myrtaceae), also known as cherry of the Rio Grande, is a tree species native from southern and southeastern regions of Brazil. Despite being very tasty, ready to be consumed fresh or in jams, it is still little known popularly. This work aimed to characterize the phenolic profile and to investigate the *in vitro* antioxidant capacity of ethanolic extracts from fruits (FE) and seeds (SE) of *E. involucrata*. Specimens with fruits of *E. involucrata* were collected at the fruiting stage in Curitibanos (Santa Catarina, Brazil, 27°8'29.30"S and 50°45'21.74"O). A voucher was deposited at the Herbarium of the Federal University of Santa Catarina (CTBS: 3943). Fruits (peel + pulp) or seeds were macerated (5 min) and extracted twice with 99.4 °INPM ethanol (ratio 1:3, p/v). After stirring (30 min, at 26°C or 50°C) and centrifugation (1500g, 5 min), the supernatant obtained was concentrated in a rotary evaporator and stored at -80 °C. The quantification and characterization of the phenolic compounds were performed by HPLC-PDA and the total monomeric anthocyanin content (TMA) of FE was performed by using a pH differential method. Four different assays were performed to assess the antioxidant capacity of *E. involucrata* extracts: Reductive capacity assay, DPPH radical scavenging capacity, oxygen radical absorbance capacity (ORAC) and superoxide radical scavenging activity. Results of all the assessments were based in the average of three independent replicates. Seed extracts (SE26 and SE50) presented a higher content of total phenolic compounds (3,260.2 ± 205.3 and 3,119.6 ± 25.3 GAE mg 100 mL<sup>-1</sup>) when compared to fruits extracts (FE26 and FE50) (127.7 ± 11.5 and 243.4 ± 5.1 GAE mg 100 mL<sup>-1</sup>, respectively, p<0.05, ANOVA/Tukey). Phenolic acids of the hydroxybenzoic class were the major compounds found, followed by flavonoids in all extracts. In general, different extraction temperatures did not influence on the evaluated parameters, although the anthocyanin content was higher in FE50 (418.1 ± 12.6 C3GE mg L<sup>-1</sup>) than in FE26 (263.26 ± 6.08 C3GE mg L<sup>-1</sup>, p<0.05, T test). The antioxidant assays demonstrated that seed extracts have shown a higher antioxidant capacity than fruit extracts. However, only FE presented capacity to scavenge the superoxide radical. Overall, the highest antioxidant capacity of seeds could be related to their higher phenolic content than in fruits. Exclusive capacity of fruit extracts to scavenge the superoxide radical may be related to the presence of anthocyanins.

**Keywords:** Bioactive compounds, *Eugenia involucrata*, phenolic compounds, antioxidants.

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