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Psidium cattleianum fruits: A review on its composition and bioactivity

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Psidium cattleianum sabine, commonly known as araçá, is a Brazilian native fruit, which is very juicy, with sweet to sub acid pulp and a spicy touch. Araçás are source of different chemical compounds, which can provide nutrients and phytochemical agents with different biological functions. Different pharmacological studies demonstrate that *P. cattleianum* exerts antioxidant, antidiabetic, anticarcinogenic, antimicrobial, anti-inflammatory and antiaging effects. A study was performed to investigate the α-glucosidase inhibition and antioxidant activities of araçá (*P. cattleianum*), butiá (*Butia odorata*) and pitanga (*Eugenia uniflora*) and relate their chemical composition with the observed biological activity. Samples of mature fruits were extracted with ethanol and the observed biological activities were dependent of the species and concentration as well. Araçás were the strongest α-glucosidase inhibitors (IC50 value of 25.4±0.7 and 31.8±0.7 μg/ml, respectively). Pitangas showed antiradical activities against DPPH, hydroxyl and nitric oxide radicals. Orange pitanga and butiá were the most active concerning anion superoxide radical. All fruits are rich in total phenolic compounds with values in the range of 454.5±17.3 – 908.3±60.8 mg of equivalents of chlorogenic acid/100 g fresh weight. Purple pitanga stood out due to their levels of anthocyanins and carotenoids. Fruits with lower IC50 values for α-glucosidase inhibition were correlated with higher concentrations of reducing sugars, phenolic compounds, anthocyanins and carotenoids and grouped by Principal Component Analysis (PCA). The obtained results indicate that these native fruits are promising sources of α-glucosidase inhibitors and antioxidants that can be used to control glycemia in patients with type 2 Diabetes mellitus.

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