

Biochemical characteristics of two monofloral Rosaceae honeys, and *in vitro* evaluation of their anti-inflammatory and tyrosinase-inhibitory effect

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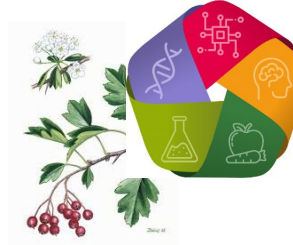
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Honey is rich of bioactive molecules, such as polyphenols, vitamins, enzymes and sugars, which influence their health properties, such as anti-inflammatory, and antioxidant capacity. Some studies evaluated beneficial effects attributable to the honey in combating some of the most critical neurodegenerative diseases (NDDs), such as Parkinson's disease (PD), mainly manifesting in older people, which involves some enzymes, such as tyrosinase. Thus, the inhibition of tyrosinase may be helpful in the treatment of PD. NDDs can also be connected to the involvement of neuro-inflammation and the amassing of free radicals, taking place to subsequent neurodegeneration.



AIMS of the work:

- The study of some biochemical characteristics (determination of the total polyphenols and vitamin C content) of hawthorn (*Crataegus monogyna*) and raspberry (*Rubus idaeus*) honey.
- The evaluation of their potential healthy properties (*in vitro* antioxidant, anti-inflammatory, and tyrosinase-inhibitory activity).



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RESULTS

Hawthorn honey exhibited better tyrosinase-inhibitory activity than raspberry honey (IC₅₀ = 13.48 and 20.32 mg, respectively).

The antioxidant activity, evaluated through DPPH method, indicated a more remarkable performance of raspberry honey (EC₅₀= 52.78 mg/ml) compared to hawthorn honey (EC₅₀= 92.19mg/ml), which also exhibited less vitamin C (19.15 mg/100 gr compared to 28.09 mg/100 gr present in raspberry honey), being the total polyphenols present in the two kinds of honey substantially the same (108.93 and 112.17 µg GAE/gr in hawthorn honey and raspberry honey, respectively).

The IC₅₀ values resulting from the *in vitro* analysis of the anti-inflammatory activity highlighted a similar behaviour between the two types of honey (48 and 46.43 mg for hawthorn and raspberry honey, respectively).