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S17. Phenolic profile of *Arbutus unedo* L. and *Prunus spinosa* L. wild fruits

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Abstract

Phenolic compounds are commonly found in both edible and inedible plants, and they have been reported to have multiple biological effects. The interest of plant phenolics derives from the evidence of their potent antioxidant activity and their wide range of pharmacologic properties including anti-inflammatory, antiallergic and antibacterial activities. Flavonoids are a type of phenolic secondary metabolites with a widespread occurrence in the plant kingdom [1]. These compounds and other different classes of bioactive constituents are present in *Arbutus unedo* L. (Ericaceae) and *Prunus spinosa* L. (Rosaceae) wild fruits. The fruits of *A. unedo* are eaten raw or made in liqueurs, and *P. spinosa* fruits are sometimes eaten raw, and commonly prepared in jams or macerated with sugar, honey and brandy to obtain a digestive and laxative liqueur, which is usually drunk after copious meals; they have also been used as astringent, diuretic and purgative [2,3]. This study aimed to characterize the phenolic compounds present in the above mentioned wild fruits, using HPLC-DAD-ESI/MS.

P. spinosa fruits presented the highest concentration in phenolic acids (29.78 mg/100 g dw), being 3-*O*-caffeoylquinic acid the most abundant one, and flavone/ols (57.48 mg/100 g), among which quercetin-3-*O*-rutinoside (15.63 mg/100g) was the majority compound. *A. unedo* fruits presented the highest concentration in flavan-3-ols (36.30 mg/100 g), and catechin was the most abundant compound in those fruits (13.51 mg/100 g). Cyanidin 3-*O*-glucoside was found in both fruits being the major anthocyanin in *A. unedo*, while cyanidin-3-*O*-rutinoside and peonidin-3-*O*-rutinoside predominated in *P. spinosa.* The latter presented a more complex anthocyanin profile and also higher anthocyanin concentration, which was coherent with its greater pigmentation. Overall, *P. spinosa* presented the highest levels of phenolic acids and flavonoids, including anthocyanins, flavonols and flavones, although no flavan-3-ols could be identified in its fruits. The studied fruits may have great potential for food industries as a source of colors and flavors, as well as bioactive molecules such as phenolic compounds for dietary supplements or functional foods.

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