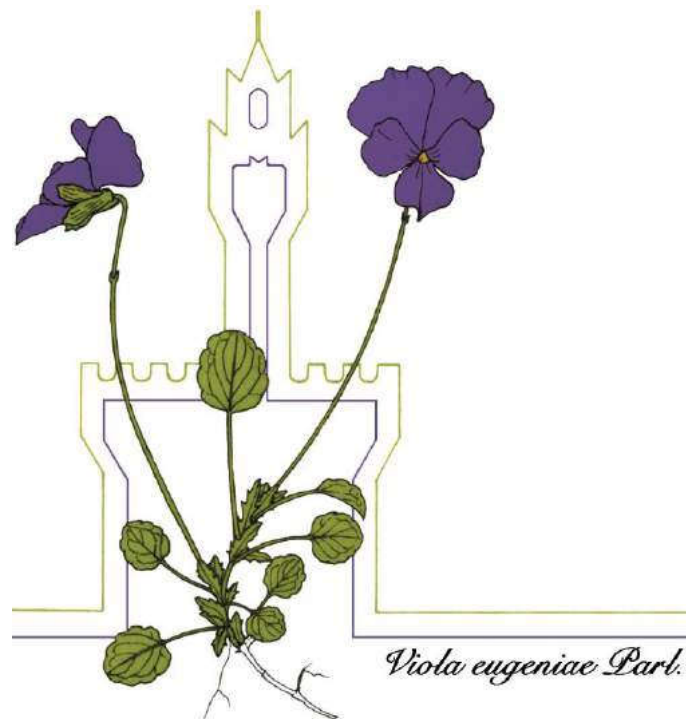


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ABSTRACTS

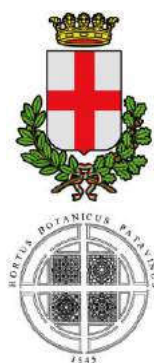
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5.1 = Phytochemical investigation of *Cornus sanguinea* L. fruits

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In Italy, over 800 spontaneous plants are used as popular traditional food (1). Among them, “common dogwood” or “bloody dogwood” (*Cornus sanguinea* L.) fruits were once used to make jams, juices, and sometimes an oil for frying. The plant is a species native to most of Europe and western Asia and it is a member of the Cornaceae family. It is a deciduous shrub which grows 2-4 m tall (sometimes reaching 6 m); it is diffused at an altitude of 0-1500 m asl. It is found in different mixed temperate broadleaved forests dominated by oaks, limes, maples, ashes, elms, and hornbeam, along with other mesophile shrub species. This dogwood spreads by seeds and stolons. The young twigs are dark red and hairy. The leaves are opposite, 6-8 cm long and 3-5 cm wide, broadly ovate or elliptical, acuminate, pubescent, with 3-5 pairs of veins and with short stalks and their colour is pale green, turning to reddish in autumn. The flowers are hermaphrodite, with four white or creamy-white petals (4-7 mm long); they are produced in corymbs. Flowering occurs in May-June and fruits mature in September-October. The fruit is a globose drupe, 5-8 mm wide, initially reddish, turning purplish-black at maturity and containing a single seed (2,3). The fruits are not toxic and have high concentration of vitamin C, however they have an unpleasant taste. Only preliminary studies about their secondary metabolites content are previously reported, indicating the presence of quercetin glycosides (4). Thus, a complete chemical investigation of *C. sanguinea* fruits was performed.

Lyophilized fruits of *C. sanguinea*, collected in Livorno (Italy), were defatted at room temperature with *n*-hexane and then extracted with MeOH by exhaustive maceration. The obtained extract was dissolved in water and partitioned firstly with EtOAc and then with *n*-BuOH. The *n*-BuOH extract was finally chromatographed on Sephadex LH-20 column and subsequently by RP-HPLC to obtain pure compounds, that were identified by mono- and bidimensional NMR and MS analyses. As results, the phytochemical investigation of the *n*-BuOH extract of *C. sanguinea* fruits led to the isolation of seven flavonoid glycosides, including the new compound myricetin 3-*O*- α -L-arabinopyranoside 4'-*O*- β -D-glucopyranoside, together with three new cyclohexanone derivatives. Isolated flavonoids showed quercetin, myricetin, dihydromyricetin, and isorhamnetin as aglycones, according to previous studies on fruits belonging to *Cornus* genus. On the other hand, the presence in the *Cornus* genus of very polar small molecules having cyclohexanone skeletons is reported in this study for the first time.

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