

Abstract

Paronychia argentea Lam., belonging to the Caryophyllaceae family, is a perennial plant widely distributed in Algeria. Even though this plant is used in the Algerian popular medicine, its phytochemical characterization is incomplete. In this study, the flavonoid profile and the *in vitro* antioxidant activity of the ethanolic extract, decoction and infusion of *P. argentea* aerial parts are reported. Flavonoids were analyzed by means of high-performance liquid chromatography coupled with diode array detection and electrospray ionization mass spectrometry. Eleven compounds were identified and six of them, including isorhamnetin-3-O-dihexoside, quercetin-3-O-glucoside, quercetinmethylether-O-hexoside, quercetin, jaceosidin and isorhamnetin, were described in this plant for the first time. The ethanol extract showed the highest flavonoid content, followed by the decoction and the infusion (25.4 +/- 0.8 mg/g of DM, 8.4 +/- 0.5 mg/g of DM, 0.2 mg/g of DM, respectively), while the best antioxidant activity was shown by the decoction (RC0.5 =178 μ g/mL for reducing power, 72.4% of inhibition of lipid peroxidation, IC50 =27.38 μ g/mL for DPPH center dot radical scavenging activity and 59.7% of inhibition of NO center dot radical). These results showed that *P. argentea* decoction could be considered as a valuable source of flavonoids and antioxidants that might contribute to the valorization of the phytotherapeutic potential of this plant.