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Antioxidant, antimicrobial activities and total phenolic content of *Prunus spinosa* L. subsp. *dasyphylla* (Schur) Domin and its secondary metabolites

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The genus *Prunus* L. belonging to the family Rosaceae is represented by 5 species in Anatolia. *Prunus* species specially *Prunus spinosa* L. subsp. *dasyphylla* are thorny shrub or small trees in North, West and South Anatolia. They have been known as “çakal eriği, güvem, güvem eriği, yabancı erik ve güvemdiken” in Anatolia. The leaves, flowers and fruits of the plant species have been used for constipation and as diuretic, antihelmintic and laxative. Furthermore, the fruits were used for eczema, diabetes, heart diseases, kidney infections, colds and the treatment of asthma. In this study, the antioxidant activity of the methanol extract of *Prunus spinosa* L. subsp. *dasyphylla* as well as its partitioned derivatives (CH₂Cl₂, EtOAc and n-BuOH) was determined against DPPH radical spectrophotometrically. As compared to α -tocopherol and ascorbic acid used as standard, the extracts were found to be dose-dependent active. The total phenol content of the extracts was determined with Folin-Ciocalteu reagent; results are reported at gallic acid equivalent. The antimicrobial activity of the extracts were tested *in vitro* against *E. coli* ATCC 25922, *Enterococcus faecalis* ATCC 29212, *P. aeruginosa* ATCC 27853, *S. aureus* ATCC 29213, *Candida albicans* ATCC 90028, *C. krusei* ATCC 6258, *C. parapsilosis* ATCC 90018 strains by using the CLSI (Clinical and Laboratory Standards Institute) microdilution method. Ciprofloxacin and fluconazole were used as controls. Ethnobotanical information obtained from traditional healers may serve as an initial lead for bioactive compounds. According to the results, we used bioassay guided fractionation procedure, and isolated two glycosylated benzyl alcohol derivatives.

Biography

Irem Cankaya graduated from the Faculty of Pharmacy, Hacettepe University in 1996 and in the same year she began the graduate program in the Department of Pharmacognosy. She obtained MSc in Pharmacognosy in 1999. She completed a Doctorate program in Pharmacognosy in 2004. Between 2000-2002, and in 2004 and 2012, she studied in the United States, University of Mississippi, National Center for Natural Products Research and School of Pharmacy. After Postdoctoral research at Faculty of Pharmacy, Mississippi University, she became a senior scientist at the Department of Pharmaceutical Botany in Ankara, Turkey. Since 2009, she is an Associate Professor at the University of Hacettepe. She is a member of Association of Pharmacognosy and Phytotherapy (one of the member of ESCOP) since 2005. She has presented more than 45 papers at international scientific conferences and has published more than 50 peer-reviewed scientific publications and book chapters. In recognition to her work on natural products, she recently received the 2010-Hacettepe University Scientific award (Ankara, Turkey), 2011-Turkish Pharmacist Association Academy of Pharmacy award and for her work on antifungal activities she obtained the USDA's International Scientific Enhancement Programme (ISEP) Award in US, 2004.

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