

**POLYPHENOLS FROM *POTENTILLA RECTA* L.
AND THEIR PHARMACOLOGICAL PROPERTIES**

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Introduction. Sulfur Cinquefoil (*Potentilla recta* L.) is the herbaceous perennial species of *Potentilla* L. genus (*Rosaceae* Juss.) native to temperate regions of Asia and Europe, and alpine areas of northern Africa. Plant shows antibacterial, anti-inflammatory and adstringent properties; in folk medicine, a poultice of the pounded leaves and stems is used for the treatment of sores and wounds.

Aim. Considering the ethnomedicinal use of *P. recta* aerial parts, we aimed to summarize data available in public domain on polyphenols from *P. recta* herb, and therapeutic potential of polyphenol-rich fractions from *P. recta* herb in order to show the prospects of pharmacognostic study of *P. recta* of Ukrainian flora.

Materials and methods. A search in NCBI-PubMed database using “*Potentilla recta*” as a keyword was performed. Here, we report on therapeutic properties of polyphenol-rich fractions from *P. recta* herb.

Results and discussion. Tomczyk *et al.*, 2011 established *in vitro* anticariogenic effects of polyphenol-rich aqueous, 50% ethanol, diethyl ether, ethyl acetate and *n*-butanol fractions from aerial parts of *P. recta* against cariogenic *Streptococcus* spp. strains. Authors assumed that due to the highest concentration of polyphenols, the ethyl acetate fraction showed the highest cariogenic activity.

The high antioxidant activity against DPPH, H₂O₂ and HClO, as well as lipoxidase and hyaluronidase inhibition activity were observed in the ethyl acetate subfraction of *P. recta* herb. However, the highest antioxidation potential in the xanthine/xanthine oxidase system was observed in diethyl ether subfraction. All tested samples showed antioxidant activity in a concentration-dependent manner (Bazytko *et al.*, 2013). Polyphenol, saponin and triterpenoid rich methanol root extract from *P. recta* showed significant antioxidant properties and depicted significant inhibitory effects against acetylcholinesterase, butyrylcholinesterase, α -amylase, α -glucosidase, and tyrosinase (Uysal *et al.*, 2019).

Karatoprak *et al.*, 2018 reported on anti-inflammatory effects from aerial parts of *P. recta* due to significant decrease of TNF- α level.

Conclusions. Data available in public domain on polyphenols from *Potentilla recta*, and therapeutic potential of *P. recta* polyphenol-rich fractions give phytochemical rationale for ethnomedicinal use of this plant and show the prospects of pharmacognostic study of *P. recta* of Ukrainian flora.