PHENOLIC CONTENTS AND IN – VITRO ANTIOXIDANT ACTIVITY OF SOME SECONDARY METABOLITES OF *Anthyllis vulneraria* L. FROM ALGERIA

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ABSTRACT

Anthyllis vulneraria L. is a plant used in folk medicine for treatment of inflammation, disturbances of metabolism and acne and accelerates the healing of wounds. In this study, total phenolic, flavonoid and proanthocyannidin contents, and antioxidant activities of *Anthyllis vulneraria* polyphenols, flavonoids and tannins extracts were evaluated using in vitro assays. The quantitative estimation showed that leaves and flowers of *Anthyllis vulneraria* were rich in polyphenols (185.00 – 326.66 mg PE / g DW). *Anthyllis vulneraria* flowers extract contained the highest levels of total phenolic content (326.66 mg PE /g DW) and flavonoid content (0.14 mg CE /g DW). The leaves extract had the highest content of proanthocyannidins (1.07 %). Polyphenols, flavonoids and tannins were extracted from leaves and flowers of *Anthyllis vulneraria*. In DPPH (2, 2-Diphenyl-1-picrylhydrazyl) radical scavenging assay, all extracts had shown significant optimum inhibition (53.52 – 93.46 %). In addition the IC_{50} values of the extracts in DPPH free radical scavenging assay, ranged from 1.06 to 15.00 mg/ml, compared to 0.12, 0.21 and 0.46 mg/ml for gallic acid, tannic acid and ascorbic acid respectively. A dose dependant curve was obtained for all extracts in the ferric reducing power assay (FRAP). However, the antioxidant potencies of ascorbic acid and sample extracts were comparable at low concentrations. The leaves and flowers of *Anthyllis vulneraria* provide a source of natural antioxidant, and may be beneficial to the health of consumers. They played an important role in protecting the human body against free radicals.

KEY WORDS: *Anthyllis vulneraria* L., Polyphenols, Flavonoids, Tannins, DPPH antioxidant power, Ferric reducing antioxidant power assay (FRAP).