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PHYTOCHEMICAL PROFILE AND ANTIOXIDANT POTENTIAL OF ANVILLEA RADIATA COSS. & DUR. VAR. GENUINA M.

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The present study aimed to evaluate the potential of *Anvillea radiata* Coss. & Dur. var. genuina M. (Asteraceae) as a source of antioxidant compounds. The preliminary evaluation of the phytochemical composition of the different organs highlighted the presence of some chemical groups. This was confirmed by a quantitative analysis based on the measurement of total phenolics, flavonoids, flavonols and condensed tannins content. We have shown that aqueous methanol is the best extractor of flavonoids, while acetone has the ability to extract more of tannins. Considering organs, flowers of *A. radiata* have the highest levels of these compounds. Thus, in order to obtain an extract enriched with metabolites of interest - flavonoids, we opted for a liquid-liquid extraction using different solvents with increasing polarity. The quantitative determination of total flavonoids by the aluminum trichloride method revealed that butanol and ethyl acetate fractions were the richest with respective holders of (55.910±1.022 mg CE/g DW) and (47.394±1.497 mg CE/g DW) for *A. radiata* flowers. These fractions showed also remarkably strong antioxidant activities on 2,2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging, ABTS radical scavenging and reducing power, which were almost comparable to capacities of the positive controls (Vit E and BHT). Conversely, a very high inhibition of lipid oxidation was obtained in the hexane fraction of *A. radiata* flowers (IC50 < 0.094 mg/ml), yet very low concentrated on polyphenols. This is probably due to the presence of other substances which may act independently or synergistically. HPLC analysis of the most active fraction revealed the presence of eleven compounds, including procatechuic acid (3.21%), caffeic acid (3.83%), naringenin-7-O-glucoside (1.46%), morin (27.09%) and coumarin (1.64%), some of them not previously reported in *A. radiata*. In conclusion, these results indicate that Anvillea radiata organic extracts can be considered as a promising source of phenolic acids and flavonoid compounds, with remarkable antioxidant properties.

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