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NYMPHAEA ALBA — A VALUABLE AND UNTAPPED SOURCE OF BIOACTIVE COMPOUNDS

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With approximately 80% of the World's population relying on traditional medicine, researchers have turned towards bioactive compounds from natural sources, identifying, over the years, many valuable tools to fight both chronic and infectious diseases. Aquatic plants have a long and rich history in this field, with species of the *Nymphaeaceae* family being involved in the treatment of diabetes, liver and renal pathologies and inflammation. The aim of this study was to extract, identify and analyse bioactive compounds in *Nymphaea alba*, harvested from the Lower Prut Low Meadow Natural Park in Romania but otherwise widespread across Europe. Methanolic extracts were obtained from *Nymphaea alba* roots. Their antioxidant activity was evaluated using the DPPH scavenging and β -carotene bleaching methods and the total polyphenol and flavonoid content was analysed. Various compounds were separated, identified and quantified using the HPLC-MS technique. Results have shown a polyphenol concentration of over 10 mg gallic acid equivalent per 100 mg root extract, subsequently exhibiting an IC₅₀ DPPH scavenging effect at 5 μ g/mL. Mass spectra have shown fragments assigned to compounds such as: hexahydroxydiphenolic, chlorogenic and tannic acids, epicatechin, corilagin and other bioactive compounds. In conclusion, *Nymphaea alba* roots are a rich source of compounds, prompting further research to elucidate the mechanisms and confirm the pharmacological potential of this aquatic plant.

Biography

Ioana O Ghinea obtained her PhD in Biotechnology from the “Dunărea de Jos” University of Galați after a BSc degree in Chemistry from the University of Bucharest. In the same year she joined the Department of Chemistry, Physics and Environment from “Dunărea de Jos” University of Galați, Romania, where she is now, Lecturer in the fields of Organic and Food Chemistry. She has published 2 book chapters and over 10 scientific papers. Her research is focused on green chemistry, biocatalysis and also on the determination of biological activity (antimicrobial, antioxidant, enzyme inhibition, protein interaction, etc.) of synthetic and natural products.

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