

PHENOLIC CONTENT AND ANTIOXIDANT ACTIVITIES OF OLU (*NYMPHAEA LOTUS*) RICE

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Nymphaea lotus is a perennial aquatic plant with a number of ethnomedicinal uses reported such as treatment of fever, skin diseases, cancer, gonorrhoea and bronchitis among others. In Sri Lanka seeds are generally known as *Olu* rice and is a delicacy in the traditional diet. Limited studies have shown that *Nymphaea* spp. are rich sources of bioactive compounds. In the present study antioxidant activities of soluble and bound phenolic compounds of raw, boiled counter parts and hulls of *Olu* rice were assessed. *Olu* rice obtained from four localities was used in the study. The soluble phenolic compounds were extracted using methanol with 1% HCl. Total phenolic (TPC), and flavonoid (TFC) contents of raw and boiled *Olu* rice were determined. Antioxidant efficacy was measured using trolox equivalent antioxidant capacity (TEAC), 2, 2-diphenyl-1-picrylhydrazyl (DPPH) radical scavenging activity, reducing power (RP), β -carotene-linoleate model system as well as ferrous chelating activity. The TPC of raw *Olu* rice ranged from 26 to 144 μ moles gallic acid equiv (GAE) /g defatted meal. The reducing power of raw *Olu* rice were 66 - 97 μ mol of ascorbic acid equiv/ g of defatted meal. The hulls had the highest TPC and antioxidant activities whereas boiled counterparts of seeds showed lower TPC and antioxidant activities compared to their raw counterparts. The results of this study showed that soluble as well as bound fractions of *Olu* rice are rich sources of phenolic compounds with antiradical, metal chelating and reducing power. Further studies are warranted to unravel the identity of compounds, their bioavailability and bioefficacy.

Keywords: Ferrous chelating activity, *Olu*, RP, TEAC