Antioxidant Properties and Nutritive Value of Raw and Cooked Pool barb (Puntius sophore) of Eastern Himalayas

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Abstract : Antioxidant properties and nutritive values of raw and cooked Pool barb, Puntius sophore (Hamilton-Buchanan) of Eastern Himalayas, India were determined. Antioxidant activity of the methanol extract of the raw, steamed, fried and curried Pool barb was evaluated by using 1,1-diphenyl-2-picrylhydrazyl (DPPH) scavenging assay. In DPPH scavenging assay the IC50 value of the raw, steamed, fried and curried Pool barb was 1.66 microgram/ml, 16.09 microgram/ml, 8.99 microgram/ml, 0.59 microgram/ml whereas the IC50 of the reference ascorbic acid was 46.66 microgram/ml. This results shows that the fish have high antioxidant activity. Protein content was found highest in raw ($20.50\pm0.08\%$) and lowest in curried ($18.66\pm0.13\%$). Moisture content in raw, fried and curried was 76.35 ± 0.09 , 46.27 ± 0.14 and 57.46 ± 0.24 respectively. Lipid content was recorded $2.46\pm0.14\%$ in raw and $21.76\pm0.10\%$ in curried. Ash content varies from 12.57 ± 0.11 to $22.53\pm0.07\%$. The total aminoacids were varied from 36.79 ± 0.02 and 288.43 ± 0.12 mg/100 g. Eleven essential mineral elements were found abundant in all the samples. The samples had a considerable amount of Fe ranging from 152.17 to 320.39 miligram/100 gram, Ca 902.06 to 1356.02 miligram/100 gram. Ni was not detected in the curried fish. The Mg and K contents were significantly decreased in frying method; however the Fe, Cu, Ca, Co and Mn content were increased significantly in all the cooked samples. The Mg and the Cr content was decreased significantly (p<0.05) in all the cooked samples.

Keywords : antioxidant property, pool barb, minerals, aminoacids, proximate composition, cooking methods

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