

Bioactive, Nutritional and Heavy Metal Constituents of Some Edible Mushrooms Found in Abia State of Nigeria

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Abstract : The phytochemical, mineral, proximate and heavy metals compositions of six edible and non-edible species of mushrooms were investigated. Fully fleshy mushrooms were used for the analysis. On the averagely, the bioactive constituents of the mushrooms were as follows Alkaloids $0.12 \pm 0.02 - 1.01 \pm 0.03$ %, Tannins $0.44 \pm 0.09 - 1.38 \pm 0.6$ %). Phenols, $(0.13 \pm 0.01 - 0.26 \pm 0.00$, Saponins $0.14 \pm 0.03 - 0.32 \pm 0.04$ %, Flavonoids $0.08 \pm 0.02 - 0.34 \pm 0.02$ %. The result of proximate composition indicated that the mushroom contained $(5.17 \pm 0.06 - 12.28 \pm 0.16$ % protein, $0.16 \pm 0.02 - 0.67 \pm 0.02$ % fats, $1.06 \pm 0.03 - 8.49 \pm 0.03$ % fibre, $(62.06 \pm 0.52 - 80.01 \pm 4.71$ % and carbohydrate. The mineral composition of the mushrooms were as follows, calcium $81.49 \pm 2.32 - .914 \pm 2.32$ mg/100g, Magnesium $(8 \pm 1.39 - 24 \pm 2.40$ mg/100g, Potassium $64.54 \pm 0.43 - 164.54 \pm 1.23$ mg/100g, sodium $9.47 \pm 0.12 - 30.97 \pm 0.16$ mg/100g, and Phosphorus $22.19 \pm 0.57 - 53.2 \pm 0.44$ mg/100g. Heavy metals concentration indicated Cadmium $0.7 - 0.94$ ppm. Zinc $27.82 - 70.98$ ppm. Lead $0.66 - 2.86$ ppm and Copper $1.8 - 22.32$ ppm. The result obtained indicates that the mushrooms are of good sources of phytochemicals, proximate and minerals needed for maintenance of good health and can also be exploited in manufacture of drugs. Heavy metals obtained indicate that when consume intentionally in high content may cause liver, kidney damage and even death.

Keywords : bioactive, heavy metals, mushroom, nutritive

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