



**Physiochemical characterization and antioxidant activity  
of methanol extract from an edible mushroom  
*Agrocybe pediades***

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**Abstract :** *Agrocybe pediades*, an edible macrofungus well recognized by the name ‘Common Field cap’, is inhabitant of grassy fields, lawns, and pasture lands. Literature review suggest that to date no detailed standardized work has been reported for this macrofungus. The present study focuses a step towards unveiling the quality control standardization of *Agrocybe pediades* by various qualitative and quantitative parameters like microscopic, physio-chemical properties, chromatographic features, antioxidant activity. Physio-chemical parameters such as organoleptic features and fluorescent behaviour against seven different reagents were also examined. Chromatographic parameters entailed the HPLC profiles of methanolic extract of *A. pediades* supports the data of phenol estimation. Quantitative measurement of the major bioactive components in the extract confirmed the presence of flavonoid, ascorbic acid, phenol,  $\beta$ -carotene and lycopene in descending order. Antioxidant potentiality of the extract also screened by DPPH radical scavenging activity ( $EC_{50}$  value 1.03 mg/ml), total antioxidant capacity (11.71  $\mu$ g AAE) and ABTS assay (0.02807 TAE/mg of extract). On the other hand, molecular studies including DNA extraction and sequencing of the internal transcribed spacer region of the genomic DNA serve as the molecular standard. The distinctive features established in this work could be considered to be a major step in identification, standardization and quality control of this edible mushroom.

**Keywords:** antioxidant activity, HPLC, physico-chemical evaluation, pharmacognostic standardization, molecular standardization.