**Comparative study of antioxidant activities and total phenolic content of selected edible wild mushrooms**


## Abstract

The present study aims to assess the antioxidant activities (AOA) and total phenolic content (TPC) of water extracts of selected edible wild mushrooms: Pleurotus porrigens, Schizophyllum commune, Hygrocybe conica, and Lentinus ciliatus. The AOA were evaluated against DPPH radical and ABTS radical cation scavenging ability, ferric-reducing antioxidant power (FRAP) and beta-carotene-linoleate bleaching (beta-CB) assays, and the Folin-Ciocalteu method for TPC. BHA was used as reference. P porrigens showed significantly higher ($p < 0.05$) DPPH(center dot) scavenging ability (90.78 +/- 0.30%) and FRAP (6.37 +/- 0.22 mM FE/100g), while Sch. commune showed significantly higher ($p < 0.05$) ABTS(center dot+) inhibition activity (94.96 +/- 0.70%) and beta-CB inhibition activity (94.18 +/- 0.17%), respectively. TPC was found in a descending order of P poriggens > L. ciliatus = Pleurotus ostreatus (cultivated) > H. conica = Sch. commune. Positive correlation was observed between the AOA and TPC. When compared to BHA (2 mM), P porrigens showed significantly higher ($p < 0.05$) DPPH(center dot) scavenging ability and reducing power, while Sch. commune showed comparable DPPH(center dot) scavenging ability and ABTS(center dot+) inhibition activity. All the mushrooms have better ABTS(center dot+) inhibition activity than BHA (1 mM). The beta-CB inhibition activity of BHA was significantly higher than those of edible wild mushrooms. The water extracts of edible wild mushrooms showed potent antioxidant activities compared to BHA to a certain extent.