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**Analysis of the secondary metabolites in the *in vitro* cultures of *Piptoporus betulinus* (Bull.) P. Karst.**

Polyporoid mushrooms are particularly interesting object of the study due to the presence of the compounds with recognized therapeutic properties in their fruiting bodies. Some of the secondary metabolites from the fruiting bodies have antidepressant, immunostimulating, antiinflammatory effects.

The aim of the study was qualitative and quantitative analysis of two types of secondary metabolites with biological importance i.e. non-hallucinogenic indole compounds and phenolic acids in the methanolic extracts from *in vitro* cultures of *Piptoporus betulinus*.

Material for the study was *Piptoporus betulinus* (Bull.) P. Karst (birch bracket) - commonly found in Poland wood-rotting, parasitic fungus for birch (*Betula sp.*). Mycelial culture was derived from the fruiting bodies of this fungi, collected in August 2013 in Forest District Krynica (Lesser-Poland province). This culture was initially conducted as a stationary, agar culture and continued to proliferate biomass in a liquid, shaking medium by Linsmaier-Skoog.

In extracts, obtained from the biomass harvested after 4-weeks period of growth, content of non-hallucinogenic compounds and phenolic acid by RP-HPLC method was determined. Of the 11 tested indole compounds in methanolic extract we detected: L-tryptophan, 5-hydroxy-L-tryptophan, and 5-methyltryptamine. The total content of indole compounds in the assay medium was 0.009 mg/100 g dm. Of the 15 examined phenolic acids the presence of the following compounds: 3,4-dihydrophenylacetic acid, gallic acid, 5-hydroxybenzoic acid and syringic acid was found. The total content of phenolic acids in the extract after previous hydrolysis with 2M HCl was 0.02 mg/100 g dm. In addition, the presence of these compounds were confirmed spectrally by UV-Vis.

The study indicates, that the established *in vitro* culture of *Piptoporus betulinus* may be a potential source of the tested groups of compounds and could be useful object for future chemical analysis.

Key words: *Piptoporus betulinus*, *in vitro* cultures, phenolic acids, non-hallucinogenic indole compounds.