



## AGARICS AND POLYPORE DIVERSITY SURVEY OF LA UNION'S MOLAVE FOREST AND THE $\alpha$ -AMYLASE AND $\alpha$ -GLUCOSIDASE INHIBITORY POTENTIAL OF *Fuscoporia torulosa* MFSLP-12

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**ABSTRACT** – Macrofungal species in the Philippines are dense and diverse, however, only a few studies focus on their taxonomy, density, and diversity due to lack of researchers specializing in this field and limited funding initiatives. A total of 108 samples were collected and identified, which were further classified into 56 morphospecies, of which 40 morphospecies were Polypores and 16 morphospecies were Agarics. The site was assessed to have high macrofungal diversity attributed to high species richness and evenness as indicated by Simpson's Diversity indices of 0.87202 and 0.85971; and Shannon-Wiener indices of 2.21849 for Agarics and 2.69332 for Polypores. To determine a possible beneficial health effect of macrofungi found in the area, the antihyperglycemic potential of the polypore species *Fuscoporia torulosa* MFSLP-12 was determined through *in vitro*  $\alpha$ -amylase and  $\alpha$ -glucosidase inhibition using its hexane, ethyl acetate, and methanol extracts. Methanol extract produced the strongest inhibition on  $\alpha$ -amylase (38%) and  $\alpha$ -glucosidase (56%) while hexane and ethyl acetate extracts showed weak to no inhibition. Compared to acarbose, its IC<sub>50</sub> values were about nine folds higher for  $\alpha$ -amylase and five folds higher for  $\alpha$ -glucosidase. This promising result merits the elucidation of the active compound as a recommended future direction.

*Keywords:* Agarics, enzyme inhibition, *Fuscoporia torulosa*, Polypores, taxonomic diversity survey



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