Antibacterial Activity of Aqueous and Methanol Extracts of Selected Basidiomycetes from UPV, Miagao, Iloilo, Philippines

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ABSTRACT

The Basidiomycetes represent an enormous source for natural products with diverse chemical structures and wideranging antimicrobial activity. This study was done to investigate the antibacterial property of selected species of basidiomycetes aqueous and methanolic extracts against *Staphylococcus aureus, Escherichia coli* and *Pseudomonas aeruginosa.* Specifically, it aimed to (1) determine the antibacterial activity of the aqueous extract of selected species of basidiomycetes in inhibiting the growth of *Staphylococcus aureus, Escherichia coli* and *Pseudomonas aeruginosa* based on the zone of inhibition; (2) determine the antibacterial activity of the methanolic extract of selected species of basidiomycetes in inhibiting the growth of *Staphylococcus aureus, Escherichia coli* and *Pseudomonas aeruginosa* based on the zone of inhibition; and (3) compare the aqueous and methanolic extracts of selected species of basidiomycetes in inhibiting the growth of *Staphylococcus aureus, Escherichia coli* and *Pseudomonas aeruginosa* based on the zone of inhibition. A total number of ten species were collected namely *Auricularia* sp., *Schizophyllum* sp., *Trametes pubescens, Trametes versicolor, Trametes elegans, Ganoderma* sp.(1), *Ganoderma* sp.(2), *Stereum* sp. and two unknowns. Dried samples were crushed and extracted with water and methanol. Antibacterial activity was determined using the Kirby-Bauer disc diffusion method. The results showed a negative to weak inhibition against the test microorganisms which is inconsistent with the results of previous studies. It could possibly be attributed to the preparation of the samples and the fruiting body maturity that influenced the antibacterial potential of the samples. It appears that fruiting bodies used in the present study may not be reliable sources of bioactive compounds for antibacterial activity.

Key words: Basidiomycetes, antibacterial activity, aqueous extracts, methanol extracts, zones of inhibition