MYCOCHEMICAL COMPOSITION AND BIOLOGICAL ACTIVITIES OF SOIL BORNE FUNGI ISOLATED FROM ONION FIELD

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ABSTRACT

CAMACHO, DANNA C., Department of Biological Sciences, College of Arts and Sciences, Central Luzon State University, Science City of Munoz, Nueva Ecija, Philippines, **JUNE 2019, MYCOCHEMICAL COMPOSITION AND BIOLOGICAL ACTIVITIES OF SOIL BORNE FUNGI ISOLATED FROM ONION FIELD**

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This study aimed to determine the mycochemical constituents and biological activities of fungi isolated from onion field; *Penicillium citrinum, Scopulariopsis brevicaulis* and *Aspergillus niger.*

Mycochemicals such as cardiac glycosides, flavonoids and terpenoids were present in ethanol extracts of *S. brevicaulis* and *P. citrinum.* Meanwhile, tannins were present in *S. brevicaulis* ethanol extract and saponins were detected in *A. niger* ethanol extract and *P. citrinum* mycelial spent. Steroids were present in *S. brevicaulis* mycelial spent. In addition, *P. citrinum* and *A. niger* mycelial spent contains cardiac glycosides and *A. niger* mycelial spent also contains flavonoids.

For antibacterial activity as protectant, at 12 hours and 24 hours of incubation, the least zone of colonization of *S. aureus* and *E. coli* were recorded in plates treated with *A. niger* and *S. brevicaulis* ethanol extracts (6 mm for *S. aureus*; 7.27 mm for *E. coli*) and *P. citrinum* ethanol extract and fungal spent (6.53 mm for *S. aureus*: 7.57mm for *E.coli),* respectively. This suggests antibacterial activity as protectant of *P. citrinum, S. brevicaulis* and *A. niger* ethanol extract and spent against *S. aureus* and *E. coli*. For the eradicant test, among the six extracts used, *S. brevicaulis* ethanol extract had the widest zone of inhibition after 12 hours of incubation with

11.20 mm for *S. aureus* and *A. niger* spent with 12.82 mm for *E. coli*, respectively. Furthermore, at 24 hours of incubation a reduction in zone of inhibition was observed in other treatments.

DPPH free radical scavenging assay and total phenolic content revealed low radical scavenging activity and total phenolic content of the fungi isolated from onion field. Among which, *A. niger* registered the highest RSA and total phenolic content of 20.35% and 33.75%, respectively.

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