

# ANTIMICROBIAL ACTIVITY OF GYNOSTEMMA PENTAPHYLLUM EXTRACTS AGAINST FUNGI PRODUCING AFLATOXIN AND FUMONISIN AND BACTERIA CAUSING DIARRHEAL DISEASE

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**Abstract.** *Gynostemma pentaphyllum* was investigated to determine its antimicrobial activities against human and animal pathogens that produce aflatoxin, fumonisin, and diarrheal disease. The fungi were *Aspergillus flavus*, *Aspergillus parasiticus* and *Fusarium verticillioides*. The bacteria were *Vibrio*, *Salmonella*, *Shigella*, *Escherichia coli* and *Staphylococcus aureus*. *G. pentaphyllum* was extracted by five different methods. The obtained extracts were designated Extracts A, B, C, D and E. The results of the antifungal assay against *A. flavus* and *A. parasiticus* showed Extracts A and B at 10,000 ppm inhibited growth at 8-28%. Extracts A and B at 10,000 ppm also showed activity against *F. verticillioides* at 41-43%. Extract A, B and C were able to inhibit the tested strains better than the Extracts D and E. The MIC values of the extracts against gram-negative bacteria ranged from  $\leq 0.98$  to 31.25 mg/ml and MIC values against *S. aureus*, a gram-positive bacteria, was 3.9-15.62 mg/ml. *G. pentaphyllum* extracts had activity against bacterial and fungal infections and could be used to control these organisms.

**Keywords:** *Gynostemma pentaphyllum*, antimicrobial activity, aflatoxin, fumonisin, diarrheal disease

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