In Vitro Antibacterial Activity of Two Mosses: Calymperes erosum C. Mull and Bryum coronatum Schwaegr from South-Western Nigeria

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Abstract:

Bryophytes are poikilohydric in nature and the oldest known land plant. Their striking resistance to microbial attack suggests their inherent production of antibacterial compounds. The antibacterial activity of acetone, ethanol, methanol and hexane extracts of Calymperes erosum C. Mull and Bryum coronatum Schwaegr were investigated against twenty clinically important bacteria pathogens. Agar dilution method was used to assess the effectiveness of the extracts on the test organisms. The minimum inhibitory concentrations of the extracts of C. erosum were between 0.625 and 5.0 mg/ml. Klebsiella pneumoniae ATCC 10031, Enterococcus feacalis ATCC 29212, Bacillus pumilis ATCC 14884 and Enterobacter cloaca ATCC 13047 in decreasing order are most sensitive to the extracts while Proteus vulgaris KZN, Staphylococcus aureus OK2 and Shigella sonnei ATCC 29930 were resistant to the extracts. Ethanolic extract was the most effective among the extracts followed by acetone extract. B. coronatum had relatively lower activity. While the mosses screened proved to be promising sources of antimicrobial and biologically active compounds, their toxicity and action mechanism still needed to be investigated.

Key Word:

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