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Antimicrobial activity screening of Pterigynandrum filiforme

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Mosses contain active substances that are known to be effective in both enhancing the wound healing process and lowering the incidence of wound infections. Previous studies have shown that bryophytes produce a variety of secondary metabolites that present pharmaceutical activities including antimicrobial activity against various microorganisms. The antifungal and antibacterial potential of ethanol extract from the moss Pterigynandrum filiforme was analyzed against seventeen bacterial and one fungal species by disk diffusion method. P. filiforme collected from Akdağ, Amasya and its broad range antimicrobial potential was obtained. These microbial strains are Bacillus subtilis ATCC 6633, Candida albicans ATCC 10231, Enterobacter aerogenes ATCC13048, Enterococcus durans, Enterococcus faecalis ATCC 29212, Enterococcus faecium, Escherichia coli ATCC 25922, Escherichia coli CFAI, Klebsiella pneumoniae, Listeria monocytogenes ATCC 7644, Salmonella enteritidis ATCC 13075, Salmonella infantis, Salmonella kentucky, Salmonella typhimurium SL 1344, Staphylococcus aureus ATCC 25923, Staphylococcus carnosus MC1.B, Staphylococcus epidermidis DSMZ 20044 and Streptococcus agalactiae DSMZ 6784. Twelve of them are standard species and they are important for exact determination of antimicrobial screening. Our present study has shown that P. filiforme has antimicrobial activity against six of the studied strains. These results are the first report for the antimicrobial potential of P. filiforme.

Keywords: antimicrobial activity, bryophyte, disk diffusion method, ethanol extract, Pterigynandrum filiforme