

## ***In-Vitro* Antibacterial Activity of Crude Organic Extracts of Selected Pteridophytes Found in Sri Lanka**

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Antibiotic resistance is a global health concern that ultimately results in resistant bacterial strains against common antibiotics. Therefore, it is an urgent need to discover novel antibiotics of natural origin. Pteridophytes are a promising alternative and in Sri Lanka, pteridophytes are almost unexplored area of study for their medicinal properties. This study aims to evaluate the *in-vitro* antibacterial activity of crude hexane, ethyl acetate, and methanol extracts of leaves, roots and stems of five pteridophytes found in Sri Lanka namely *Alsophila walkerae*, *Sphaopteris crinita*, *Pityrogramma calomelanos*, *Blechnum orientale* and *Diplazium esculentum*. The crude organic extracts were assayed using disc diffusion method against two gram-positive (*Staphylococcus aureus*, *Bacillus subtilis*) and two gram-negative (*Pseudomonas aeruginosa*, *Escherichia coli*) bacteria. The zones of inhibitions were recorded after overnight incubation and mean values were calculated based on the triplicated results. Gentamicin and 50% methanol were used as the positive and negative controls respectively. According to the results, 29 out of 33 extracts were active against least for one bacterial strain. Thirteen extracts inhibited the growth of *S. aureus* while 8 extracts were active against *B. Subtilis*. Two plant extracts showed the activity against *P. aeruginosa* and 6 extracts were active against *E.coli*. Methanolic root extract of *S.crinita* showed promising activity against both Gram-negative and Gram-positive bacteria tested. Hexane extracts were completely inactive. This study revealed that the pteridophytes are a good source of phytochemicals with antibacterial activity.

**Keywords:** *Pteridophytes, antibacterial activity*