BIOPROPSPECTING OF ANTIMICROBIAL PROPERTIES OF *Dipteris conjugata* Reinw EXTRACTS

NUREZZAH NAJIYAH BINTI ABDUL WAHAB

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ABSTRACT

BIOPROPSPECTING OF ANTIMICROBIAL PROPERTIES OF *Dipteris conjugata Reinw* EXTRACTS

Fern species have been used as traditional medicine in some part of Asian countries such as to treat Rheumatism and male reproductive ailment and also classified as restricted species that undergoes some extinction issue in some Asian countries.The purpose of this study is to identify the phytochemical compounds of *Dipteris conjugata* Reinw which are clarified to carry the role as antimicrobial or antibacterial agent, to determine the total terpenoids compounds of both leaf and shoot ethanolic extract of this fern species and thirdly, to evaluate the antibacterial activity of both fern parts against two Gram positive bacteria (*S. aureus and P. aeruginosa*) and two Gram negative bacteria (*B. subtilis and E. coli*) using well diffusion method. All phytochemical compounds tested comprises of alkoloid, terpenoid, steroid, saponin, glycosides and tannin were present in both leaf and shoot ethanolic extract. While, quinone only present in leaf ethanolic extract and flavonoid absent in both fern parts extracts. Determination of total terpenoid compound showed that leaf has yield about 92% total terpenoid yield and shoot has yield 91% total terpenoid compound indicating that no significant difference between these two parts in yielding amount of terpenoid compound. For all tested organisms, only two of leaf extracts showed resistance to the bacteria. Leaves ethanolic extraction exhibited zone of inhibition of 12.0 mm and 12.5 mm against *S. aureus* and *E. coli.* Based on the result of this study, it is suggested that this fern species extract has potential of being antibacterial agents against certain bacteria. However, further study to isolate the important phytochemical compounds is required for further pharmacological evaluation.