

**PHYTOCHEMICAL SCREENING, ANTIBACTERIAL AND
ANTIFUNGAL ACTIVITY OF *PITHECELLOBIUM JIRINGA*
TWIGS**

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**Final Year Project Report Submitted in
Partial Fulfilment of the Requirements for the
Degree of Bachelor of Science (Hons.) Chemistry
In the Faculty of Applied Science
Universiti Teknologi MARA**

JANUARY 2017

ABSTRACT

PHYTOCHEMICAL SCREENING, ANTIBACTERIAL AND ANTIFUNGAL ACTIVITY OF *PITHECELLOBIUM JIRINGA* TWIGS

The aim of this study was to investigate the phytochemical analysis, antibacterial and antifungal activity with three different crude extracts; hexane extract, ethyl acetate extract and methanol extract in *P.jiringa* twigs. The properties of *P.jiringa* twigs were discovered and observed with several tests and analysis. The study on phytochemical screening revealed the presence of secondary metabolites such as alkaloids, flavonoids, tannins, terpenoids and saponins in *P.jiringa* twigs that indicating the potential of plant as traditional medicines. These chemical constituents also found in TLC by using different conditions such as Vanillin/H₂SO₄ reagent, FeCl₃ reagent, Dragendorff's reagent, evaporated iodine vapour, UV (254 nm) and UV (360 nm) that indicated different chemical compounds. The antibacterial and antifungal properties were determined by using disc diffusion method with different concentrations of solvent extractions against two gram-positive bacterial strains: *Staphylococcus aureus*, *Staphylococcus epidermidis* and fungi yeast *Candida albicans*. These microorganisms have a potential to cause some disease such as pneumonia, catheter infections and yeast infection in the vagina. The result showed that the crude extract of the *P.jiringa* twigs can inhibit the microbial growth of *S.aureus* and *S.epidermidis* but not able to inhibited on *C.albicans*. The methanol extract showed higher or active inhibition on microorganisms compared with ethyl acetate extracts. The bioautography assay was tested to prove the existence of secondary metabolites in the plant that have potential to inhibit the microorganisms. Therefore, in this study revealed that *P.jiringa* twigs have a potential to acts as antimicrobial or therapeutic agent and potential as alternative to current antibiotics.

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