

PHYTOCHEMICAL SCREENING AND ANTIBACTERIAL
ACTIVITIES OF *Dioscorea hispida* (Dennst.)
AGAINST WOUND PATHOGEN

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ABSTRACT

PHYTOCHEMICAL SCREENING AND ANTIBACTERIAL ACTIVITIES OF *Dioscorea hispida* (Dennst.) AGAINST WOUND PATHOGEN

Dioscorea hispida (Dennst.) tuber is a species of edible yam. It needs special preparation technique for the yam to be safely consumed. The yam bulb paste is used to treat minor wound by people of Satpuda Hill, India. In this study, the phytochemical screening of the *D. hispida* before and after treatment was carried out to determine the phytochemical compound and the impact of treatment toward the phytochemical compound. This study also was aimed to determine the antibacterial activities of the treated and untreated *D. hispida* tuber extract against wound pathogen, namely *Serratia marcescens* (ATCC 14756) and *Pseudomonas aeruginosa* (ATCC 10145). The treatment is carried out by rinsing the tuber cutlets in running water for 7 days in accordance to the traditional method. This study discover that the tuber of *D. hispida* contains carbohydrate, alkaloid, phenols, steroid, tannins and terpenoids. The treatment process was found to eliminate the content of alkaloid, phenols, tannins and terpenoid. From the disc diffusion test on the treated and untreated *D.hispida* tuber extract, it is found that the tuber is ineffective in inhibiting growth of wound pathogen, the *S. marcescens* and *P.aeruginosa*.

INTRODUCTION

1.1 Background of Study

Eating yam as staple diet replacement have been known to be practiced in tropical region (Sasiwatpaisit *et al.*, 2014). Among yam consumed by Malaysian includes *Dioscorea hispida* (Dennst.). the yam is also commonly known Gadog, Gadong, Gadong lilin, Gadung mabuk, Gadung, Ubi akas, Ubi arak, Taring pelanduk and Sulur gadung (Nashriyah *et al.*, 2010).

The *D. hispida* contains toxic alkaloid dioscorine (Sasiwatpaisit *et al.*, 2014) and are known to cause intoxicating effect if it is not treated correctly. The intoxicating effect have been used by people in Jeypore, India as replacement for beer (Nashriyah *et al.*, 2011). *D. hispida* bulb paste is used to treat minor wound by tribes in Satpuda Hills in India (Kosalge and Fursule, 2009).

Traditional preparation for the yam to ensure it is safe for consumption and void of its intoxicating effect is by soaking it in running river for up to seven days (Hudzari *et al.*, 2011).