

UNIVERSITI TEKNOLOGI MARA

**DPPH SCAVENGING ACTIVITY OF
CLINACANTHUS NUTANS EXTRACTS**

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ABSTRACT

Clinacanthus nutans (*C. nutans*) is a shrub from the family Acanthaceae that is known in Malaysia as Belalai Gajah. The extracts of *C. nutans* were prepared from dried leaves using ethyl acetate and ethanol. Then, the ethyl acetate and ethanol extracts of *C. nutans* were evaluated for their antioxidants properties. The scavenging activity was evaluated by using 2, 2-diphenyl-1-picrylhydrazyl (DPPH) assay. The results showed that ethanol extracts contain high antioxidants activities compared to ethyl acetate extracts. However, compared to Trolox, both extracts reveal some potential in antioxidants activity as their percentages exceeded more than 50 % of scavenging activity. Thus, ethanol and ethyl acetate extracts of *C. nutans* may be examined as new sources of antioxidants in herbal medicines' research.

CHAPTER ONE

INTRODUCTION

1.1 Background of study.

Reactive oxygen species (ROS) consists of free radicals for instance, superoxide anion ($O_2^{\cdot-}$), hydroxyl radical ($\cdot OH$), and also molecules that are not radical such as hydrogen peroxide (H_2O_2), singlet oxygen (1O_2) are usually formed during the aerobic cells metabolism (Sharma *et al.*, 2012). In order to maintain the balance between ROS production and their removal, the generated ROS is purified by the body's antioxidants systems under normal conditions (Coulibaly *et al.*, 2014).

Antioxidants are substances that are capable of combating the free radical. Besides, during oxidative stress, they also help to constrain and inhibit the imbalance that occurred (Coulibaly *et al.*, 2014). Increase in oxidative burden may be occurred because of the imbalance between ROS and antioxidants defence systems.