

Total Phenolic, Flavonoid Content, Antioxidant Activity and Phytochemical Screening of *Donax grandis* (Miq.) Ridl.

ABSTRACT

Numerous studies have provided evidence supporting the significant role of oxidative stress in the development and progression of various diseases. The significance of the capacity of antioxidant status to recuperate from specific diseases has been demonstrated to be crucial for enhancing human health. *Donax grandis*, a plant species belonging to the Marantaceae family, is used by the indigenous population of Sabah to treat a range of ailments. This study aimed to chemically analyse the aqueous extract of *D. grandis* for the presence of bioactive compounds. The analysis revealed the detection of tannins, saponins, and flavonoids within the extract. Quantification of phenolics and flavonoids was conducted to determine their overall content. In-vitro antioxidant activity was investigated using a 2, 2-diphenyl-1-picrylhydrazyl (DPPH) free radical scavenging method, employing a UV-VIS spectrophotometer. The phenolic compound concentration was 34.34 ± 1.37 mg/g gallic acid equivalent, while the flavonoid content was 3.93 ± 0.12 mg/g catechin equivalent. The IC₅₀ value of *D. grandis* in the DPPH assay was determined to be 303.68 ± 0.4 µg/ml. The findings have revealed significant phytochemical properties found in *D. grandis*, which are anticipated to have therapeutic potential in managing diseases associated with oxidative stress.