

OP 23**Phytochemical Analysis, In vitro Antioxidant and Sun Screening Activity of Different Solvent Extracts Obtained from *Bauhinia racemosa* (maila) Leaves Grown in Sri Lanka**Hettihewa S.K.[#], Piyarathna M.I.P.*Department of Pharmacy, Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka*[#]*Corresponding author: krishnathi2001@yahoo.com*

Background: *Bauhinia racemosa* belongs to the family Fabaceae, is locally known as “Maila” in Sri Lanka and it is widely used as a medicinal plant in Ayurvedic medicine.

Objectives: To evaluate phytochemical profile, *in vitro* antioxidant and sun screening activity of different solvent extracts of *Bauhinia racemosa* leaves.

Methods: The defatted crude extracts of 70% aqueous acetone and 80% aqueous methanol were prepared and subjected to preliminary phytochemical screening tests. Total phenolic, flavonoid contents and antioxidant activity of defatted crude extracts were determined by using Folin-Ciocalteu method, aluminum chloride colorimetric method and 2,2-diphenyl-1-picrylhydrazyl (DPPH), ferric reducing antioxidant power (FRAP) assays, respectively. *In vitro* sun screening activity of the extracts was expressed as sun protective factor (SPF) values calculated by using Mansur equation. Results were analyzed by using SPSS software version 20.0. Multiple comparisons were evaluated pairwise at $p=0.05$, and the values were considered significantly different.

Results: The preliminary phytochemical screening revealed that the presence of carbohydrates, phenolic compounds, alkaloids, flavonoids, phytosterols and saponins in both leaf extracts. The results of the total phenolic content for two different extracts were 5765.5 ± 12.6 (70% acetone) and 5341.6 ± 107.4 (80% methanol) mg Gallic acid equivalents (GAE)/100 g dry weight (DW) of leaves. Total flavonoid contents for the two different extracts were 3261.6 ± 175.1 (70% acetone) and 3044.7 ± 35.9 (80% methanol) mg Catechin equivalents (CAE)/100 g DW of leaves. *In vitro* antioxidant activity for two different extracts were 11.7 ± 1.3 (70% acetone) and 11.8 ± 2.1 (80% methanol) mmol trolox equivalents (TE)/100 g DW of leaves for DPPH assay. For the FRAP assay, 12.9 ± 0.3 (70% acetone) and 15.5 ± 0.8 (80% methanol) mmol Fe (III)/100 g DW of leaves. The 80% methanolic leaf extract of *B. racemosa* showed promising sun screening activity (SPF= 39.6 ± 0.4) compared to 70% acetone leaf extract (SPF= 36.3 ± 0.3) whereas Dermatone (positive control) (SPF= 38.1 ± 0.7) at 1.5 mg/mL concentration.

Conclusions: Findings revealed that both extracts were rich in phytochemicals and 80% methanolic leaf extract of *B. racemosa* grown in Sri Lanka possess promising *in vitro* antioxidant and sun screening activity and recommended to further investigations.

Keywords: *Antioxidant, Bauhinia racemosa, Sun screening activity*

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