

Investigation of antioxidant activity in leaf extract of *Argyrea pomacea* (Manpanchan)

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Oxidative stress is a fundamental process underlying various human diseases. Antioxidants are substances that significantly delay or inhibit the oxidation of substrates. Plants and plant products are natural sources of antioxidants. *Argyrea pomacea* is a climber plant mostly found in Batticaloa, Sri Lanka. The leaves of the plant are used to treat diabetes, ulcers, and internal wounds. Hence, this study aimed at investigation of antioxidant activity of the *A.pomacea* plant. Initially, leaves of the *A.pomacea* were collected from Batticaloa. Then, cleaned, dried and powdered leaf sample of the plant was extracted separately in methanol and ethyl acetate solvents at room temperature and under hot condition (66 °C and 77 °C for extraction in methanol and ethyl acetate respectively). Subsequently, the antioxidant activity of the above leaf crude extracts was evaluated by DPPH and phosphomolybdenum assays using ascorbic acid as the standard. The DPPH assay revealed the highest antioxidant activity for the leaf sample extracted in methanol under ambient condition (IC₅₀ value = 35.51) and the lowest activity was observed for the leaves extracted in ethyl acetate under hot condition (IC₅₀ value = 103.56) compared to the standard ascorbic acid (IC₅₀ value = 13.47). The Phosphomolybdenum assay demonstrated the highest activity for leaves extracted in ethyl acetate under hot condition. This study has revealed that the leaf of *A.pomacea* is a potential source of natural antioxidants. Further studies are required to identify the active phytochemicals which are responsible for this antioxidant activity.

Keywords: *Argyrea pomacea*, Leaf, Antioxidant activity, DPPH assay, Phosphomolybdenum assay

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