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Analysis of phytochemicals and antioxidant properties of *Dendrophthoe falcata* and *Mangifera indica* plant leaf extracts

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Dendrophthoe falcata, a common mistletoe plant, used in traditional medicine has not been adequately studied for the identification of compounds with biological activities. Phytochemical screenings allow the identification of chemical constituents with potential medicinal properties. These bioactive compounds hold promise as starting material for development of drugs. In Sri Lanka *Dendrophthoe falcata* is abundantly seen in *Mangifera indica*. The aim of the study is to quantify selected phytochemicals and the antioxidant properties in *Dendrophthoe falcata* and *Mangifera indica* (host tree) leaf extracts. The best extraction solvent was determined by cold extraction among methanol, ethanol, acetone, dichloromethane and water. Tannins content was determined using colorimetry with gallic acid as the standard. Alkaloids content was determined by a gravimetric method using acetic acid and ammonium hydroxide. *In vitro* DPPH (1, 1-diphenyl- 2- picryl-hydrazyl) radical scavenging activity, total phenolic content (TPC), total flavonoid content (TFC) and ferric reducing power assay (FRAP) were used to evaluate the antioxidant activity of plant leaf extracts. The TPC and TFC were determined by using Folin-Ciocalteu colorimetric and aluminum chloride methods, respectively. The FRAP value was determined using colorimetry with ascorbic acid as the standard. Methanol had the highest extraction yield (25.20±4.34% w/w) compared to other solvents. Highest alkaloid content was observed in *Dendrophthoe falcata* leaf extract (DFLE) (31.32±2.59 % w/w). Highest tannin content (51.64±1.72 µg GAE/mL) was observed in *Mangifera indica* leaf extract (MILE). It was found that the DFLE demonstrated potent antioxidant activity compared to the half maximal inhibitory concentration of MILE calculated using DPPH assay (IC₅₀ of DFLE 760.60±145.02µg/mL). DFLE had the highest TPC value (527.82±9.05 µg GAE/mL) and highest TFC value (399.70±13.95 µg CAE/mL). The maximum ferric reducing power was shown by DFLE (111.51±0.76 µg AAE/mL). The results suggested that the medicinal potential of DFLE is higher than MILE. Classes of compounds identified in *Dendrophthoe falcata* should be further studied to identify potentially beneficial compounds.

Keywords: Alkaloid, Antioxidant, Flavonoid, Phenolic, Phytochemical.