

Quantitative analysis of total phenolic content, flavonoid and tannins in *Careya arborea* (Kahata)

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The plant species *Careya arborea* of family Lecythidaceae, known as “Kahata” or “wild guava”, is used in Ayurveda and traditional medical systems especially for orthopedic treatments in Sri Lanka. The plant contains important pharmacological compounds: tannins, saponins and flavonoids. Tannin is a phenolic plant compound that has attracted considerable attention for being the main source of antioxidants, that inhibits pathological conditions. These phytochemicals protect the body against oxidative damage from free radicals. These compounds have multiple biological activities, including anti-oxidant, anti-tumor, anti-inflammatory effects, due to their molecular structure. This study focused on quantifying these phytochemical groups. Methanol extract of the stem bark was subjected to analysis. Total phenolic content (TPC) and total flavonoid content (TFC) were determined by Folin Ciocalteu method with amount expressed as Gallic acid equivalent per gram of extract and Aluminium chloride method with amount expressed as mg quercetin equivalent per gram of extract respectively. Folin-Ciocalteu Assay method was used for tannin quantification in the sample extracts, calibrated against a standard tannic acid series, and the data were expressed as the mean \pm SD (n = 3). Results of TPC was 571.3 ± 0.3 mg GAE/g of extract while TFC was 12.04 ± 0.29 mg QE/g of extract. Total tannins were 250.1 ± 1.2 mg TANE/g of extract. Results revealed high amounts of these chemical constituents that can induce biological activities helpful in therapeutic practices. Further experimental and clinical studies are recommended to confirm the efficacy.

Keywords: *Careya arborea*, Phenolic compounds, Tannins, Free radicals