

Evaluation of Sri Lankan Wild Fruits Based on Free Radical Scavenging Activity, Polyphenolic Content and Cytotoxic Activity

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The study of free radical chemistry has been of recent interest in the scientific community and represents an emerging paradigm in nutraceuticals and disease management. The objective is to incorporate phytochemicals into nutraceutical preparations as an alternative to natural antioxidants, which are being phased out due to possible health hazards and toxicity. This study examined the free radical structure, phenolic content, and cytotoxic nature of different wild fruits (*Syzygium caryophyllatum*, *Careya arborea*, and *Mangifera zeylanica*) in Sri Lanka. Hexane (Hex) ethyl acetate (EA) and aqueous (AQ) fractions were fractionated from crude methanolic extracts (CR) of fruits and assessed for antioxidant activity by 1-diphenyl-1-picrylhydrazyl (DPPH) and ferric reducing antioxidant power (FRAP) tests. The results revealed that EA and AQ fractions of *Careya arborea* fruit showed 95.51 and 115.74 of DPPH radical scavenging percentage, and CR and EA fractions of *Careya arborea* exhibited 341.34 and 261.84 mg TE/g ferric reducing power respectively. The total phenolic capacity content of the evaluated fruit species ranged from 22.8 to 285.3 mg GAE/g dry weight. The present study revealed a strong correlation between free radical scavenging activity and total phenol activity, representing an $R^2 = 0.9989$ value. Moreover, neither plant extracts nor fractions were toxic to a normal Vero cell line. Thus, it was concluded that *Syzygium caryophyllatum*, *Careya arborea*, and *Mangifera zeylanica* species are positive potent free radical resources

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