PHARMACOGNOSTIC STUDY OF MEDICINALLY IMPORTANT SELECTED BAUHINIA SPECIES IN SRI LANKA

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The genus Bauhinia of Family: Fabaceae; Subfamily: Caesalpinioideae comprises over 200 species, some of them are native to wet zone regions of Sri Lanka. This study focuses on the pharmacognostic evaluation of selected Bauhinia species: *Bauhinia purpurea, Bauhinia tomentosa, Bauhinia monandra,* and *Bauhinia acuminata* with the aim of developing a comprehensive identification guide and exploring their therapeutic potential. Selected specimens were collected from the Galle District and authenticated from National Herbarium, Peradeniya, Sri Lanka. Phytochemical analysis conducted for methanol extracts of stem bark powders and HPTLC profiles were studied. Macroscopic observations revealed distinct floral characteristics of *Bauhinia purpurea* was observed to have pinkish-purple and red-colored flower species. Two varieties of *Bauhinia tomentosa* had yellow flowers, with and without a brown blotch. Flowers of *Bauhinia acuminata* had white and *Bauhinia monandra* flowers were mixed with pink and white. Leaf and pod morphology also varied among species, providing as additional identification characters. Chemical analysis revealed the presence of phenolic compounds and carbohydrates in all species. These bioactive compounds are known to exhibit various biological activities including anticancer, antidiabetic, antioxidant, antimicrobial, and anti-inflammatory activities which can be used for treatments in cancer thyroid gland diseases, hemorrhoids and ulcers. Two varieties of *Bauhinia purpurea*, *Bauhinia tomentosa, Bauhinia acuminata*, and *Bauhinia monandra* observed different R_f values respectively $0.39R_f$, $0.45R_f$, $0.34R_f$, $0.30R_f$. The findings can be concluded that same species have morphological differences, but they maintain consistent chemical profiles. Further chemotaxonomic relationships can be used for substitution rare species instead of original plant sources in medicinal purposes.

Keywords: *Bauhinia,* Pharmacognostic, Phytochemical, Morphology, Medicinal purpose