

**PHYTOCHEMICAL AND MORPHOLOGICAL ANALYSIS OF THE INGREDIENTS OF  
VASA GUDUCHI CHATHURANGULANA DECOCTION FROM DEFERENT  
GEOGRAPHICAL AREAS IN SRI LANKA**

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*Vasa guduci chathurangulana* is a widely used traditional Ayurveda decoction comprising *Adhatoda vasica* (L.), *Nees*, *Tinospora cordifolia* (Willd) Hook. f. and Thomas., and *Cassia fistula* (L.), documented in classical texts such as *Bhavaprakasha*, *Bhaisajya Ratnavali*, etc. However, different geographical states may affect on changes in their qualities due to environmental factors. Hence, this study aimed to assess its ingredients on phytochemical and morphological variations across different geographic regions in Sri Lanka. In the present study, samples of *A. vasica* roots, *T. cordifolia* stems, and *C. fistula* barks were collected from the North Central, Eastern, Southern, and Western provinces in Sri Lanka and subjected to physicochemical analysis, qualitative phytochemical analysis, chromatographic profiling etc. For each variety macroscopic morphology remained consistent across regions and significant variations were observed in other parameters. For all three plants, the highest concentrations of alkaloids were found in the Southern province and *Tannins* were highest in Western province. Terpenoids were higher in Southern province for *A. vasica*. Highest moisture content was found in the Southern province for *A. vasica* (12.78). Ash content was highest in the Southern province for *T. cordifolia* (9.63). *A. vasica* in Southern province showed RF range (0.07-0.71) with five bands. *T. cordifolia* from Eastern showed 9 bands (Rf-0.4-0.91) and for *C. fistula* from North Central province showed 9 bands (0.1-0.88) were the highest among the provinces, suggesting a broader spectrum of bioactive constituents. In this manner, TLC profiles of these plant materials showed different RF values showing the effect of different geographical effects on the same species. These findings indicate that regional variations influence the phytochemical and physicochemical properties of the decoction's ingredients, which may impact its therapeutic efficacy. These findings can serve as a reference for further validation of *Vasa guduci chathurangulana*. Moreover, quantification of phytochemicals would provide more precise assessment which will be conducted in future studies.

**Keywords:** *Vasa guduci chathurangulana* decoction, Phytochemicals, Different geographical areas, Physicochemical analysis