Flavonoid as chemotaxonomic markers in endemic/endangered species of Rauvolfia from Southern Western Ghats of India: A preliminary study

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Résumé

Preliminary analysis of flavonoid chromatographic migration profiles of endemic/endangered species of Rauvolfia L from Southern Western Ghats of India were carried out. Paper chromatogram showed maximum separation in the solvent system of forestral. In the paper chromatogram, number of flavonoid spots varied from 9 to 12 in the five taxa studied. The main aglycones detected in high performance liquid chromatography (HPLC) analysis were flavones apigenin and luteolin, flavonol kaempferol, myricetin, quercetin and anthocyanidins such as delphinidin and cyanidin. Flavonol Quercetin was detected in all the five species of Rauvolfia giving a chemotaxonomic significance to its presence at the generic level. The two species Rauvolfia serpentina and Rauvolfia tetraphylla could be regarded as the most primitive in the evolutionary line with respect to the flavonoid pattern. Rauvolfia densiflora has the most advanced pattern of flavonoids. The dendrogram generated by unweighted pair group method with arithmetic average (UPGMA) cluster analysis of chemo metric data showed a clear grouping of five species in three clusters. Flavonoid profiles were efficiently used for the identification of Rauvolfia beddomei, which due to morphological similarity, was erroneously suspected to be the medicinally significant species Rauvolfia micrantha. Flavonoid profiling using paper chromatography, in the solvent system of forestral could suggest an easy and quick procedure for identifying adulteration by substitution in Rauvolfia species.

Mots-Clés: Rauvolfia L, Western Ghats, flavonoid, paper chromatography, HPLC, dendrogram

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