Chemotaxonomy and medicinal properties of *Sida* spp: flavonoids

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ABSTRACT

The genus *Sida* L. (Family: Malvaceae) comprises 120 cosmopolitan species. According to Dassanayake and Fossberg (1998), seven species of *Sida* have have been found in Sri Lanka. S. *acuta* (Gas - bavila) is a common species, which is mostly distributed in road sides, specially in the low country. Although this species is considered as a weed in most countries, it is widely used as a medicinal plant in Sri Lanka. Leaves, seeds, flowers, and a triterpenoid (saponim) have been isolated from this species ("sepasal" data base - Kew herbarium, UK.) However, no information is available on its flavonoid chemistry. This paper reports the results of a preliminary study of an ongoing research program on flavonoid chemistry of *Sida*.

Flavonoids share a basic C_6-C_3-C_6 structure and are one of the largest and most diverse renge of naturally occurring phenolics, and these are widely used as chemosystematic marker compounds (Harborne, 1973).

In this work, flavonoid composition of the leaves was studied using paper chromatography and UV-Vis spectroscopy. Methanolic extractions of the leaves were chromatographed two dimensionally (2-D pc) using solvents BAW (Butanol: HOAc: Water, 4:1:5) and 15% HOAc. Isolation and purification of these compounds were done using repetitive 1 - D Paper chromatography in BAW, 15% HOAc and distilled water as solvents (Harborne, 1973). UV - Vis absorption spectra for the purified compounds were obtained. Using shift reagents such as aq.NaOH, NaOAc, and H_3BO_3, their glycosylation patterns were also studied (Markham, 1982).

According to the chromatographic properties, R_f values and UV - Vis absorption spectra, three flavonoid glycosides, i.e. kaempferol 7 - glycoside, luteolin 3' - glycoside and a miner flavonoid glycoside were identified. For the confirmation of the identity, acod hydrolysis and sugar analysis is to be carried out. This preliminary work will be useful in identifying and assaying the bioativity of the flavonoid compounds in the genus *Sida*.

Reference:

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