FLAVONOIDS OF THE INFLORESCENCE OF VERNONIA ELAEGNIFOLIA

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Vernonia elaegnifolia DC. (syn. Conyza elaegnifolia) belonging to the Compositae is a climbing shrub with creamy-white inflorescence. V. cinerea and V. patens have been reported to contain luteolin-7,8,3-glucoside and quercetin-3-O-methyl ether, while the flowers of V. cinerea have subsequently been found to contain luteolin, chrysosyletin, luteolin-7-glucoside and isoorientin. As there is no record of any phytochemical work on V. elaegnifolia, the inflorescence of the same has been examined for flavonoids and the results are presented in this note.

Fresh inflorescence of V. elaegnifolia collected from the Bishop Heber College Campus, Tiruchirapalli, was extracted with hot 80% alcohol under reflux. The aqueous concentrate was worked up in the usual way and partitioned into petrol, ethyl alcohol, and ethyl acetate solubles. The petrol fraction did not afford any crystalline solid. The ether fraction on concentration yielded a yellow solid which on crystallisation from MeOH came out as yellow needles, m.p. 277-279° (yield 0.02%), C_{14}H_{10}O_{8}, tetraacetate, m.p. 185-187°, tetramethyl ether, m.p. 151-153°, dull yellow under UV with or without N{\textsubscript{2}}H{\textsubscript{4}} and was identified as kaempferol and the identity confirmed by \( \lambda_{\text{max}} \) and characteristic diagnostic shifts noticed on addition of appropriate seagents, \( R_f \) and direct comparison with authentic samples of kaempferol and its derivatives.

The ethyl acetate fraction afforded yellow needles (aq., MeOH), m.p. 263-265° (yield 0.06%), appeared purple under UV changing to yellow on fuming with NH{\textsubscript{3}}, had \( \lambda_{\text{max}} \) (MeOH) 208, 302, 314 sh, 355 nm exhibiting bathochromic shifts of 62 nm, 42 nm and 6 nm (band II) with NaOMe, AlCl{\textsubscript{3}} (with and without HCl) and NaOAc respectively, did not answer the Hörhammer-Hansel test, positive to Molisch's test and could be hydrolysed by 7% HzSO{\textsubscript{4}} (10°, 2 hr) to kaempferol and D-galactose in equimolar amounts. Based on these data, the glycoside has been characterised as kaempferol-3-O-galactoside and the identity confirmed by co- and mixed PC with an authentic sample from Melochia unbellata.

Luteolin, its 7-O-glucoside and 6-C-glucoside, chrysoyletin and quercetin-3-methyl ether have been reported from two Veronica species by previous workers. Although flavonols as their 3-O-glycosides are reported to be common in this family, this is perhaps the first instance of isolation from a tree flavonol, kaempferol-3-O-galactoside recorded to be pharmacologically active from Vernonia.

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7. Parmar, N. S., Unpublished data, as cited in ref. 5.