

Bioactive Compounds and Antioxidant Activity of *Polygonum odoratum* Linn

Somananda K. Ahongshangbam¹, G.A. Shantibala Devi², S. Chattopadhyay³

^{1,2}*Plant Physiology Section, Department of Life Sciences,
Manipur University, Canchipur, Manipur, India*

²*Bio-Organic Division, Bhabha Atomic Research Centre, Trombay, Mumbai, India*
²*shantibala_guruaribam@rediffmail.com*

ABSTRACT

Plants with rich phenolic compounds are of interest as they constitute one of the major targets to search for natural antioxidants. *Polygonum odoratum* Linn., a perennial herb which has a coriander like scent and a clear lemony note is used as spices in the state of Manipur, India, especially for garnishing salads and other local cuisines. The ethanolic extract of the plant was analysed for its bioactive compounds, total phenols, flavonoids and antioxidant activities. The bioactive compounds of the plant has been identified and quantified by HPLC, using external standards. The Folin-Ciocalteu method was used to assess the total phenolic content and expressed as Gallic acid equivalents. The flavonoid content was determined by colorimetric method. The antioxidant activity of the extract was determined by DPPH free radical scavenging assay. The plant has a total phenolic content of 13.03±0.61 GAE/mg/g dry weight and flavonoid content of 4.92±0.629 mg/g of dry weight. IC₅₀ value of the plant has been determined as 190.19±0.424 µg/ml. Gallic acid, apigenin, ferulic acid, quercetin, elagic acid and p-coumaric acid has been identified and quantified as the main bioactive compounds. The plant extract showed good radical scavenging activity which may be, due to high phenolic and flavonoid contents. The results from this study suggest that the plant can be harnessed to treat free radical mediated diseases.

Keywords: natural antioxidants, HPLC, bioactive compounds, flavonoids, free radical scavenging.