Comparative study on Proximate and Mineral composition in *Vernonia cinerea*

P. Weerasinghe[1], T. Abeysinghe[2], P.A. Paranagama[3]

Vernonia cinerea is a herb having several medicinal properties such as antidiabetic, antioxidant, antimicrobial, antiinflammatory and anticarcenogenic. This work investigated the proximate and mineral composition in different parts (leaves, roots, stem and flowers) of *V. cinerea* using standard procedures. Collected data of proximate and mineral analysis were analyzed using one-way ANOVA. The results of the proximate composition were found to be as follows; ash content ranged between 10.00 ± 1.32 % w/w and 20.17 ± 6.74 % w/w while both leaves and roots had the highest and flower had the least ash content which was significantly different ($P<0.05$). The moisture content ranged between 61.24 ± 2.17 % - 75.45 ± 4.74 % w/w in the different parts of the plant. The mean nitrogen content ranged between 1.91 ± 0.23 % w/w and 4.80 ± 0.18 % w/w. The protein content in flower, leaf, stem and roots of *V. cinerea* were significantly different ($P<0.05$) and the values ranged between 9.19 ± 1.08 % w/w - 23.07 ± 0.85 % w/w %. The plant parts were also analyzed for mineral elements such as Zn and Cu metal ions using Atomic Absorption Spectroscopy (AAS). The levels of these elements found were; Zn:5.58 ± 0.14 - 51.27 ± 0.81 mg/kg and Cu 3.29 ± 0.06 - 8.57 ± 0.10 mg/kg with few exceptions. The mineral content of flower, roots, stem and leaves were significantly different ($P<0.05$). Therefore, *V. cinerea* as a therapeutically beneficial herb has a significant amount of proximate and mineral ion composition that can be specified.

Keywords: "Proximate analysis; Metal ion analysis; *Vernonia cinerea*"

[1] Department of Chemistry, University of Kelaniya, Kelaniya, Sri Lanka, *pataliweera@gmail.com*
[2] Department of Chemistry, The Open University of Sri Lanka, Nawala, Sri Lanka
[3] Department of Chemistry, University of Kelaniya, Kelaniya, Sri Lanka