



NOTES ON NATURAL HISTORY

In Search of Antioxidant Activity from herbaceous plant *Ageratum conyzoides*

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Introduction

The annual herbaceous plant *Ageratum conyzoides* L. (Asteraceae) is widely utilized in African and South American folk medicine. The plant has a wide range of uses and can be found in a variety of places. Its utility in curing fever, rheumatism, migraines, colic (Bioka et al.,) and Antispasmodics (Achola et al., 2004).

In the essential oil of *A. conyzoids*, phenol, phenolic esters, coumarins, and chromones have been discovered (Adesogan & Okunade, 2009) but only a few of the substances include terpenoids, steroids, chromenes (Gonzalez et al., 1991), pyrrolizidine alkaloids (Wiedenfeld & Roder, 1991), and flavonoids (Hui & Lee, 1971). The chemicals identified in those plants make up the flavonoid fraction. Only a few of the chemicals identified in these plants are flavonoids. The flavones fraction contains polyoxygenated flavones like heptamethoxyflavones and methoxyflavones and methoxy.

Collection and identification of plant materials

In favour of the revision of antioxidant activity of the family Asteraceae, the plants which have been selected finally for screening and segregation of vigorous main beliefs belong to the family Asteraceae. The taxonomic identification, the plant's *Ageratum conyzoides* L. (Koobhi) Showing Anti-oxidant activity in plants of the family Asteraceae..

Preparation of plant extracts

The plant material was completely cleaned with tap water and dried in the shade at room temperature before being ground to powder (40-60 mesh), weighted and stored. Soxhlet extraction was used to make crude plant extracts. About 500g of the ground substance of the sample was introduced to the tip and taken individually with different solvents (500 ml) C₂H₅OH, CH₃COCH₃ and petroleum ether utilized as a solvent.

The extraction procedure continues for twenty-four

hours until the solvents in the extractor siphon tube become colourless. Extract taken into a beaker and heated till ethanol got evaporated. Dried extract stored at 40°C for photochemical analysis. The aerial section of *Ageratum Conyzoides* was macerated in 500 ml of 95% C₂H₅OH for 4 days (biological examination).

Radical scavenging effect

Evaluation of free radical scavenging activity of *ageratum confides* (contains flavinoids) carried out by DPPH technique. (Krebs et al., 1998) At least three different methods were used to gather data. By correlating the sample absorbance to that of the DPPH reference solution the scavenging activity of the samples was determined. Mean inhibitory concentration IC₅₀ Which was given as % activity, was calculated using the Litchfield and Willcoxon test.

Conclusively, as a result, flavonoids from metallic complexes, (Achola et al., 2004) and their antioxidant and chelating properties play a vital role to protect cells and tissues from free radical damage (Marques-Neto et al., 1988).

Finally, during our study, we found the following: as a result flavonoids from metallic complexes, (Achola et al., 2004) and the antioxidant and chelating properties play a vital role to protect cells and tissues from free radical damage. (Marques-Neto et al., 1988).

Table-1: Antioxidant activity of *A. conyzoides* flavonoid fraction

flavonoid fraction (Conc.)	% of decrease	IC ₅₀ (µg/ml)
		93.90
100(µg/ml)	48.18	
50(µg/ml)	30.20	
25(µg/ml)	21	

References

- Achola, K.L., Munenge, R.W. & Mwaura, A.M. (2004): Pharmacological properties of root and aerial part extracts of *Ageratum conyzoides* on isolated ileum and heart. *Fitoterapia* 65: 322-325.
- Adesogan EK, Okunade AL (2009): A new flavone from *Ageratum conyzoides*. *Phytochemistry*, 18:1863-186.
- Bioka, D., Banyikwa, F.F. & Choudhuri, M.A. (2003): Analgesic effects of a crude extract of *Ageratum conyzoides* in the rat. *Acta Hort.*, 332:171-176.
- Gonzales, A.G., Aguiar, Z.E., Grillo, T.A., Luis, J.G., Rivera, A. & Calle, J. (1991): Chromenes from *Ageratum conyzoides*. *Phytochemistry* 30:1137-1139.
- Hui, W.H. & Lee, W.K. (1971): Triterpenoid and steroid constituents of some *Lactuca* and *Ageratum* species of Hong Kong. *Phytochemistry*, 10:899-901.
- Krebs, K.G., Heusser, D. & Wimmer, W. (1998): Thin-Layer Chromatography. Pub. by: SpringerVerlag, Berlin, Heidelberg, New York.
- Marques-Neto, J.F., Lapa, A. & Kubota, M. (1988): Efeitos do *Ageratum conyzoides* Lineé no tratamento da artrose. *Rev. Bras. Reumat.*, 28:34-37.
- Wiedenfeld, H. & Roder, E. (1991): Pyrrolizidine alkaloids from *Ageratum conyzoides*. *Planta Med.*, 57:578-579.

