

Abstract No: BO-52

**Profiling of phytochemical composition and potential bioactive compounds in
*Calotropis gigantea***

P. K. R. S. Kumari¹ and E. M. R. K. B. Edirisinghe*¹

¹Department of Chemical Sciences, Faculty of Applied Sciences, Rajarata University of Sri Lanka,
Mihintale, Sri Lanka
ranjith_e@rjt.ac.lk*

Phytochemicals derived from medicinal plants are important sources of therapeutic agents in pharmaceutical research and development. *Calotropis gigantea* is a medicinal herb that belongs to the family Apocynaceae, native to South and Southeast Asia. This latex bearing plant has two varieties: white-flowered and purple-flowered form. The current study was conducted to preliminary screen the phytochemicals and to assess the potential bioactive components found in the methanol fraction of leaves and flowers of *Calotropis gigantea* by Gas Chromatography-Mass Spectrometry (GC-MS). The dried powder of leaves and flowers of *C. gigantea* were subjected to cold maceration extraction by methanol. The rotary evaporated crude extract was dissolved in methanol to prepare 100000 ppm extract and it was subjected to GCMS analysis and 10000 ppm extract was used for screening tests. Alkaloids, phenols, tannins, carbohydrates and steroids were found in leaf and flower extracts after conducting a phytochemical screening. While reducing sugars, terpenoids, and flavonoids were only discovered in floral extracts. Both extracts were found to be devoid of saponins, proteins, and other essential amino acids. Fifty eight compounds were identified from the flower extract and fifty nine compounds were identified from the leaf extract by the GC-MS analysis. Most prevalent identified chemical compounds are 9,12,15-Octadecatrienoic acid (Z,Z,Z), 5-hydroxymethylfurfural, n-Hexadecanoic acid, gamma-Sitosterol, Squalene, Phytol, 9-Octadecanoic acid, 4-Hydroxy-2-methyl acetophenone, Ergost-5-ene-3-ol (3-beta), Stigmasterol, Neophytadiene, Squalene, ethyl-9,12,15-octadecatrienoate, Larisiresinol, Stigmasta-5,24-(28)-dien-3-ol (3-beta, 24 Z), Olean-12-en-3-ol acetate (3-beta), Lanosta-8,24-dien-3-ol acetate (3-beta) and Alpha-Amyrin. Most of these chemical compounds are responsible for significant bioactivities. The reported bioactivities of the identified compounds confirm that the *C. gigantea* comprised mainly of antioxidant, anti-microbial, anti-inflammatory, Anti-cancer, anti-diabetic agents. The findings of the study imply that *C. gigantea* is a valuable medicinal plant and potential bioactivities of the components need further study.

Keywords: *Calotropis gigantea*, GC-MS, Phytochemicals