Evaluation of pharmacognostic, preliminary phytochemical and antimicrobial studies on Ruellia tuberosa L. (whole plant).

Arirudran B [1] , Saraswathy A[1], Krishnamurthy V[2]

[1]Captain Srinivasa Murti Drug Research Institute for Ayurveda (CCRAS), Anna Hospital Campus, Arumbakkam, Chennai, India.

[2]Department of Biochemistry, Bharathi Women's college, University of Madras, Chennai, India.

Corresponding author email: arirudran_1975@yahoo.com saraswathy20002004@gmail.com

From International Conference on Biosciences- Trends in Molecular Medicine.

Post Graduate Department of Biochemistry, Dwaraka Doss Goverdhan Doss Vaishnav College, Arumbakkam, Chennai 600 106, India. 7-8 February 2012.

American J of Bio-pharm Biochem and Life Sci 2012 March, Vol. 1 (Suppl 1): A06

ABSTRACT

Ruellia tuberoa L. of Acanthaceae family is a Minnie root medicinal, tropical plant widely distributed in south East Asia. In folk medicine, it has been used as diuretic, antidiabetic, antipyretic, analgesic, anti-hypersensitive, thirst-quenching, and antidotal agent. Recently this plant has been incorporated as a component in an herbal drink in Taiwan. However a very few chemical constituents and pharmacological activities have been reported for this species. As there is no pharmacognostic work reported on whole plant, the present investigation attempts to study the pharmacognostical, preliminary phytochemical studies along with HPTLC, fingerprinting analysis and antimicrobial activity of successive extraction using n-hexane, chloroform, ethyl acetate, alcohol and separate aqueous extract from whole plant of Ruellia tuberosa L. against different bacterial and fungal organisms (ATCC, MTCC) using disc diffusion method. Preliminary organic analysis revealed the presence of tannin, flavonoid, steroid, triterpnoid and phenol in different extracts respectively. Physiochemical studies revealed that total ash is 13.53%, acid insoluble ash is 2.36%, alcohol soluble extractive value is 7.67%, water soluble extractive value is 24.78% and loss on drying at 105°C is 11.29%. The antimicrobial study revealed that the chloroform, ethyl acetate, alcohol and aqueous extracts were active against all the bacteria tested and showed significant antibacterial properties. The aqueous extract exhibited less activity against fungal organisms. These specific identities will be useful in identification, authentication of the raw drug and pharmacological activities associated with traditional folk remedy. Thus it may be informed that Ruellia tuberosa L. may be used to treat oral bacterial diseases.

Published: 1 March 2012.