



Extraction, Pharmacognosy Studies, Phytochemical Analysis and *in vitro* Antioxidant Studies of *Garcinia xanthochymus*

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ABSTRACT : The present investigation aims to understand the *Garcinia xanthochymus* with regard to its extractive values, pharmacognosy studies, phytochemical analysis and *in vitro* antioxidant studies. Pharmacognosy parameters such as moisture content, extractive values, fluorescence parameters, and ash values were determined. Preliminary phytochemical analysis indicates that the extracts contain alkaloids, flavonoids, phenolics and tannins, phytosterols and triterpenoids. Ferric ion reducing property was found to be maximum for the fruit extract where as the nitric oxide scavenging activity of all the three extracts was not very significant compared to rutin. ABTS radical scavenging activity of fruits extract was considerably high compared to the other extracts. However, the total antioxidant activity was found to be significantly high for the extract from aerial parts than the extracts from fruits and root. It is evident from the studies that various parts of *Garcinia xanthochymus* contained significantly higher amounts of health beneficial phytochemicals. It is also clear that the extract of aerial parts, fruits and roots possessed potentially beneficial antioxidant activities. In view of its use in ancient medicine coupled with the recent understandings of the *Garcinia xanthochymus* the plant may be considered for further exploration as very potent nutraceutical.

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Recently there has been a surge in the demand for natural and organic products for use in human diet due to deleterious effects of synthetic food additives and increased understanding of consumer about this problem. Considerably large numbers of studies have evidenced the greater health beneficial effects of various plant species containing phytochemicals that effectively scavenge free radicals (1, 2 and 3).

Oxidative stress is a negative effect caused by the free radicals in the organism, and this negative effect can cause various diseases such as arteriosclerosis, diabetes, tumor, heart disease and aging (4, 5). However, healthy humans can detoxify or eliminate these free radicals by enzymes such as superoxide dismutase, catalase, and peroxidase, and also by food-derived

antioxidants (6). There is an increasing interest in natural sources of antioxidant molecules for use in the food, because the synthetic antioxidants such as butylated hydroxyl anisole (BHA) and butylated hydroxytoluene (BHT) accumulate in the body and result in liver damage and carcinogenesis (7) *Garcinia xanthochymus*, a perennial medicinal plant native to the south and south-west of Yunnan of China belongs to family Cluceaceae, can grow up to 10-20 m. *Garcinia xanthochymus* trees have dark green leaves and a gummy yellow sap and bear yellow fruits 6-7 cm in diameter with juicy, acidic, yellow pulp containing two seeds. The acidic fruits are used in jams, preserves, and vinegar (8) Gamboge is used in watercolors and as a yellow fabric dye (9) Gamboge fruits are used in traditional medicine for treating diarrhea and

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