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PHYTOCHEMICAL SCREENING AND ANTIOXIDANT ACTIVITY OF LEAVES AND STEM BARK EXTRACTS OF *GARCINIA IMBERTI* - AN ENDANGERED PLANT

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ABSTRACT: *Garcinia imberti* Bourd. a critically endangered tree belongs to the family Clusiaceae found only in India. The phytochemicals and antioxidant studies were carried out for the methanolic extracts of Garcinia imberti leaves and stem bark using DPPH and ABTS radical scavenging assay. Preliminary phytochemical screening of methanolic extracts of Garcinia imberti revealed the presence of various bioactive components like alkaloids, flavanoids, steroids, glycosides, phenols, saponins, terpenoids, resins, carbohydrates and tannins in both leaves and stem bark. The quantitative analysis of phytochemicals of the extracts showed the presence of high amount of tannins (0.92 ± 0.23mg/gm) and alkaloids (0.83 ± 0.48mg/gm) in leaf and high concentration of flavanoids (0.65±0.16mg/gm) and tannins (0.78±1.12mg/gm) in bark extract. The result of the present study concluded that the methanolic extracts of *Garcinia imberti* leaves and stem bark possess significant antioxidant activity due to the presence of significant amount of phenolic compounds which are the major contributors of antioxidant activity. The finding of this study suggests that the studied plant is a potential source of natural antioxidant that could have great importance as therapeutic agents in preventing or slowing the progress of oxidative stress related degenerative diseases.

INTRODUCTION: Plants are one of the most important sources of natural medicine and number of modern drugs has been isolated from them. Over 80% of world population relied on the traditional form of medicine for their basic health care[1]. Use of medicinal herbs has become an important part of daily life despite the progress in modern medical and pharmaceutical research [2]. Epidemiological studies on medicinal plants support that the constituents such as phenols, flavanoids, alkaloids, tannins etc. are capable of exerting protective effect against oxidative stress [3].

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They are effective in treatment of several human diseases such as cancer, arthritis, neurodegenerative disorders, aging process and diabetes [4]. In recent years the research on medicinal plants has become more important to know their constituents and biological activity [5]. Therefore it is also necessary to have knowledge of chemical constituents of plants before using it as medicine.

Garcinia imberti Bourd. a critically endangered tree belongs to the family Clusiaceae found only in India. The tree grows up to 15m tall in evergreen forest of Western Ghats, Agasthyamalai, Kerala. The plant is dioecious and has yellowish bark with mild fragrance. Leaves are simple, elliptic, green turns grayish on drying, midrib prominent on both surfaces. Male flower in terminal fascicles of 1 to 9, pedicels short, sepals 4 greenish yellow, petals 4, yellow, orbicular to broadly ovate, female flowers