



Phytochemical Screening and Antibacterial Activity of the Ethanolic Stem Bark Extract of *Eucalyptus Camaldulensis*

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ABSTRACT

In this study, the stem bark of *Eucalyptus camaldulensis* was subjected to preliminary phytochemical and anti-bacterial analysis. The extraction of the stem bark was done with ethanol with a recovery of 12.1 %. The phytochemical evaluation as well as the antibacterial analysis of the ethanolic leaf extract was carried out. The phytochemical analysis showed the presence of carbohydrates, terpenol, cardiac glycoside, flavonoids, tannin and corderoites. The antibacterial analysis of the ethanolic extract showed activity on *Staphylococcus aureus*, *Streptococcus pyogenes*, *E-coli*, and *Pseudomonas aeruginosa* at different concentrations. *Eucalyptus camaldulensis* possesses medicinal value owing to the presence of important phytochemicals as well as inhibitory potential against some selected microbes. Also, *Eucalyptus camaldulensis* could be exploited in the treatment of diseases related to the investigated microbes.

1. Introduction

Plants have continued to be a major source of medicine, as they have always been throughout human history. Medicinal plants, due to their immense therapeutic value, have played an essential role in the healthcare system since ancient times, and they could be a key source of new antimicrobial medications to battle pan- and multi-drug resistant pathogens. These new antibacterials could be found in herbal extracts and essential oils. *Eucalyptus camaldulensis* is a major medicinal plant [1-3].

Herbal remedies are widely available for the treatment and prevention of various diseases and often contain highly active pharmacological compounds. Many plants synthesize substances that are useful for the maintenance of health in humans and other animals. These substances, most of which are phenols or their oxygen substituted derivatives such as tannins, secondary metabolites of plants which have been isolated are at least 1200. In many cases, these substances (particularly alkaloids) serve as

plant mechanisms against predation by microorganisms, insects, and herbivores [4]. Plant-originated drugs present safer health benefits in comparison to chemical drugs, hence, more than 80 % of the population of the world opt for medicinal plants for the sustenance of their primary health care needs [5-6].

Phytochemicals are active secondary plant metabolites that are responsible for the claimed medicinal activities of plants. *Eucalyptus camaldulensis* is one of those plants that possess these phytochemical properties and is reported to possess medicinal activities on various ailments. the phytochemical constituents of various parts of this plant have been investigated using standard methods of phytochemical screening. The presence of these phytochemicals in *E. camaldulensis* could therefore justify the applications of the plant in the management and curing of various ailments as claimed traditionally. Most phytochemicals are more useful in extracted forms and the extraction is normally done by using suitable solvents because the required components may not involve the whole plant and in some cases, non-

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