

ANTIBACTERIAL ACTIVITY OF FIVE MEDICINAL PLANT EXTRACTS USED BY THE MAASAI PEOPLE OF KENYA

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ABSTRACT

Five locally known plants, *Solanum aculeastrum*, *Erythrina abyssinica*, *Carissa edulis*, *Croton megalocarpus* and *Myrica salicifolia* used by Maasai traditional healers for treatment of bacterial infections were extracted using chloroform, ethanol and water. The extracts obtained were then tested for *in-vitro* antibacterial activity on clinical isolates of gram-positive bacteria; *Staphylococcus aureus* and gram-negative bacteria; *Escherichia coli*, *Pseudomonas aeruginosa*, *Salmonella typhi* and *Krebsiella pneumoniae*. The activity of the water extracts of all the plants was the highest, followed by ethanol and chloroform extracts respectively. The water extract of *Croton megalocarpus* was observed to be the most active against all strains of bacteria.

KEYWORDS: Antibacterial Activity, *Erythrina abyssinica*, *Croton megalocarpus*, *Solanum aculeastrum*, *Myrica salicifolia*, *Carissa edulis*

INTRODUCTION

Plants are known as a major source of modern medicines. From ancient times, human have utilized plants for treatment and prevention of diseases, leading to the dawn of traditional medicine. This study presents the ethnobotany, ethnopharmacology of *E. abyssinica*, *C. megalocarpus*, *S. aculeastrum*, *M. salicifolia* and *C. edulis* as well as their potential therapeutic benefits as antimicrobials especially of their water extracts [Githiori *et al*, 2004].

Erythrina abyssinica commonly known as "the red hot poker tree" belongs to the family Leguminosae consisting of 730 genera and over 19,400 species distributed all over the world. The genus *Erythrina* comprises of approximately 120 species of which about 30 are found in continental Africa and 6 in Madagascar. Various species and sub-species from the genus *Erythrina* are found throughout east and southern Africa.

Traditionally, different parts of this plant are used by many communities to treat a number of ailments including infectious diseases such as gonorrhoea, syphilis, trachoma, conjunctivitis, dysentery. It is also used as an anthelmintic and to treat schistosomiasis. The ethyl acetate extract of the stem bark of *Erythrina abyssinica* has shown anti-plasmodial activity against the chloroquine-sensitive (D6) and chloroquine-resistant (W2) strains of *Plasmodium falciparum* [Yenesew *et al.*, 2005].

Myrica salicifolia is a shrub of 1 m in height but can grow into a tree of up to 20 m, usually aromatic and resinous. It belongs to the family *Myricaceae* found mostly in temperate to subtropical and tropical-montane regions of the world. Traditionally, the root extract of *M. salicifolia* was consumed by Maasai warriors to prime themselves for battle. They believed that uptake of this extract would produce feelings of detachment from the environment, invincibility, irritability, aggressiveness, overreaction to extraneous sounds and a tendency to keep a posture for a long time