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Antibacterial activities of different extracts of Holoptelea integrifolia

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The various parts of Holoptelea integrifolia, with vernacular name nemali chettu (telugu) a roadside plant, are indicated by Charaka Samhitha, Sushrutha and other traditional systems for the treatment of inflammation, acid gastritis, Antitumor, Intestinal Worms, Vomiting, Wounds, Leprosy, Antiviral, Diabetes, Adaptogenic, Anthelminitic. According to literature survey, the plant Holoptelea integrifolia Roxb. exhibits a wide range of biological activities which have been reported by many scholars. These all activities are subjected to further studies to establish the effective solvent and plant part. Methanol, Ethanol, Chloroform and Aqueous extracts of the leaf of Holoptelea Integrifolia were studied for antibacterial activity against four bacterial strains using agar well diffusion method and minimum bactericidal concentration and minimum inhibitory concentrations were determined for each strain. The antibacterial activities of different extracts of Holoptelea Integrifolea at various concentrations were evaluated where zone of inhibition was compared with the standard drug i.e ampicillin.

All extracts except aqueous extracts had a significant broad-spectrum inhibitory activity. The methanol extract of leaf had the potent antibacterial activity, with a minimum inhibitory concentration (MIC) of 50µg/ml and a minimum bactericidal concentration (MBC) of 350µg/ml against selected bacteria. The Methanolic extract of leaf showed maximum inhibitory activity compared to Ethanolic, Chloroform and Aqueous extracts. Methanol extract of leaf was found to be very effective against all the test organisms used. Ethanol extract of leaf was effective only against Staphylococus Aureus; Chloroform extract of leaf was effective against E.Coli, B.Subtilis; aqueous extract of leaf was effective against S.aureus and E.coli, when compared to standard drug ampicillin. The minimum inhibitory concentration for Methanol extract was found to be 50, 300, 25 and 100 µg/ml against S.aureus, B.Subtilis, E.coli and S.typhi; for Ethanol extract was 100µg/ml (S.typhi); for chloroform extract was 100µg/ml (E.coli) and 25µg/ml (B.subtilis) and for aqueous extract was 50µg/ml (S.aureus) and 25µg/ml (E.coli) respectively suggesting the antibacterial activity of Holoptelea Integrifolia.

Keywords: Holoptelea Integrifolia, antibacterial activity, zone of inhibition, minimum inhibition concentration, leaves.

Biography

Kavitha Alli is pursuing her Ph.D from JNTU Hyderabad under the guidance of Dr. Laxmi Narasu and she completed her masters in BioTechnology from Sri Shakthi Kailash women's college, Salem under Periyar University, Tamilnadu. Her areas of interests include use of traditional medicinal plants in modern medicine.

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Breeding of Cistan yaghouti grape using clonal selection

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Cistan Yaghouti grape is belong of seedless grapes that it is resistance to diseases and growing in situation Cistan weather which almost have hot winds and salt soil but branch of this grape is density with small berry. In order to increase of fruit quality, we investigated yard vines of Cistan areas such as Zahak, Doostmohammd and Bonjar. We collected samples of Yaghouti grape. Traits of clones of Yaghouti grape were calculated using of Descriptor method. Results shown that Yaghouti grape clones had high variation in traits such as density of branch, size of berry, weight of berry, weight of branch, hight of branch. Therefore could say clonal selection is suitable method for breeding of grape branch quality. Collected Seedlings also planted in Zahak agriculture research station for more evaluation and stability of traits in location and year.

Keywords: Cistan yaghouti grape, Clonal selection, breeding, density of branch.

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