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Antibiotic Effect of Leaf Extract from Plectranthus Amboinicus (Lour) Spreng in Asthma

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ABSTRACT

This leaf extract of plectranthus amboinicus is an medicinal plant. Raw leaf of plectranthus amboinicus is processed and used as an antibiotic. This leaf extract is used as an antibacterial activity for microbes. It is based on the leaf extracted and the antibacterial functions are identified for pseudomonas, e.coli, klebsiella, staphylococcus and streptococcus. The microbes present in human sputum and lungs. This medicinal plant is used to fight against the bacteria's. Plectranthus Amboinicus, it will be used as medicine for disease such as Asthma. Amikacin is used as a sample drug of all microbes.

Keywords: *Amikacin; Antibacterial Activity; Asthma; Plectranthus Amboinicus.*

1.0 Introduction

Plectranthus amboinicus (Pa): It is a medicinal plant. Commonly called Indian borage and belonging to plant family Lamiaceae. Its a large succulent herb, highly aromatic & fleshly, possessing short soft erect hairs with distinctive smelling leaves. The stem is fleshy, about 20-80cm, Leaves are undivided, egg/oval-shapped and very thick, with the lower surface possessing the most numerous glandular hairs, giving a frosted appearance. The taste of this leaf is pleasantly aromatic with agreeable and refreshing odour.

Flowers are on a short stem, pale purplish in dense whorls at distant intervals. Indian borage is very commonly grown as a potted plant. Indian Borage is a fast-growing plant.

Propagation is via stem cuttings. To encourage a bushy plant, cut the tip of the top, insert into the soil and instantly, you have another plant as the cutting will grow within days. Indian borage ideally should be grown in a semi-shaded and moist location as the leaves will remain a beautiful green color.

If it is getting too much sun, the leaves turn yellow, start curling and look unsightly; if not enough sun, the leaves turn a dark shade of green and space out. The herb grows easily in a well-drained, semi-shaded position.

Medicinal Uses: The leaves have also had many traditional medicinal uses, especially for the treatment of coughs, maintain body heats, sore throats, asthma, malarial fever, mucus and cancer.

Antibiotic Activity: The Antimicrobial Activity is taken as the leaf extract in which the presence or absence of bacteria was detected. It shows the antimicrobial activity of the asthma affected bacteria's.

2.0 Materials and Methods

Collection of Plant Material: Plectranthus amboinicus leaves was collected from west hills side (Sathuragiri hills) in Madurai district, Tamilnadu. The leaves were authenticated by Traditional Herbal Doctor Dr. M. Rajamanickam, S. Sangaralingapuram, Madurai, Tamilnadu, India.

Leaves Extraction: Plectranthus amboinicus leaves are shade dried at room temperature for a period of 3 weeks. Dried leaves become powdered by grinding using Mortar & Pestles. 5gram of powder is used for extraction separately.

The powder form of leaves 5gram, 50mlof water and 50ml of methanol mixed separately, under boiling condition within 30minutes and 7minutes. Finally 15ml of aqueous extract was obtained. After boiling Methanol extrac had 24hrs standing condition and 13ml of methanol extract was obtained.

Agar Well Diffusion Method: The extracts obtained from the plants or any antibioticpreparations were used for studying their antibacterial activity.

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Antibaterial Activity: The Antimicrobial Activity is taken as the leaves extract in which the presence or absence of bacteria's was detected. It shows the antibacterial activity of asthma affected bacteria's. The Bacteria's are Pseudomonas, E. coli, Klebsiella, Staphylococcus and Streptococcus. The antibacterial activity was taken from aqueous extract and methanol extract. Amikacin is used as a sample drug of all bacteria's.

3.0 Results

Methanol Extract Antibacterial Activity

Fig 1: Pseudomonas Antimicrobial Activity in Methanol Extract

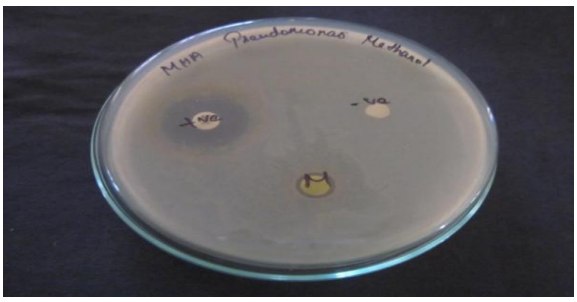


Fig 2: E.coli Antimicrobial Activity in Methanol Extract

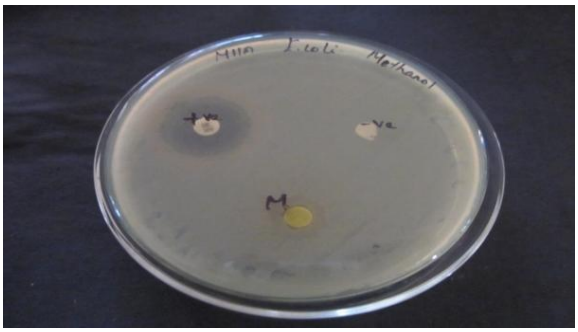


Fig 3: Klebsiella Antimicrobial Activity in Methanol Extract

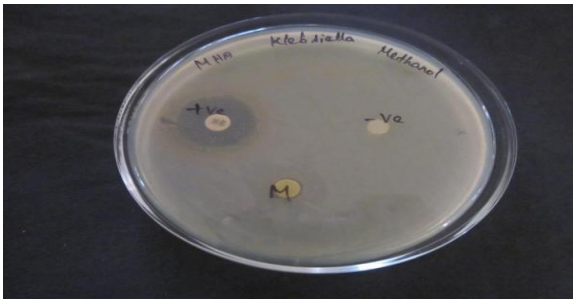


Fig 4: Staphylococcus Antimicrobial Activity in Methanol Extract

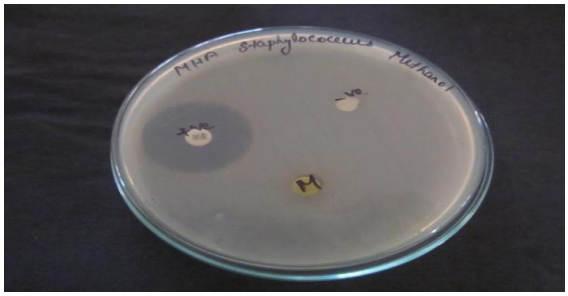


Fig 5: Streptococcus Antimicrobial Activity in Methanol Extract

Methanol extract using 1µml using antibiotic activity for this 5 bacteria's, and 1mg of Amikacin drug is used.

Aqueous Extract Antibacterial Activity

Fig 6: Klebsiella Antimicrobial Activity in Aqueous Extract

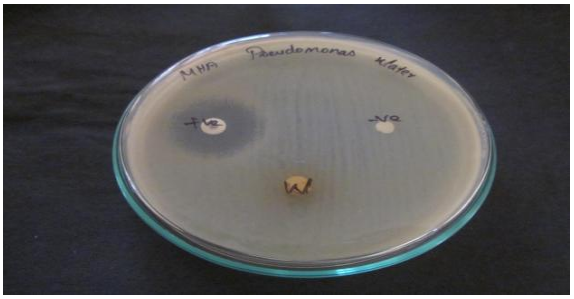


Fig 7: E.coli Antimicrobial Activity in Aqueous Extract

Fig 8: Klebsiella Antimicrobial Activity in Aqueous Extract

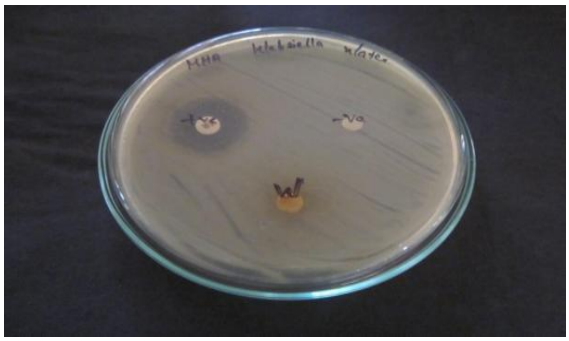


Fig 9: Staphylococcus Antimicrobial Activity in Methanol Extract

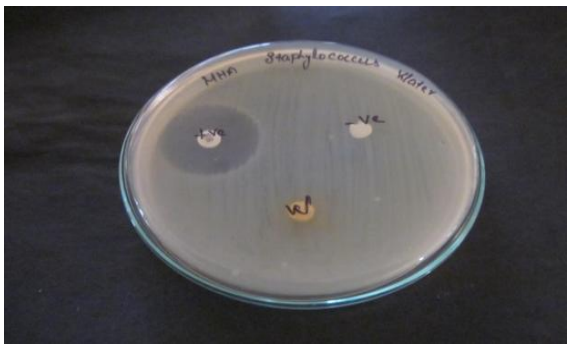
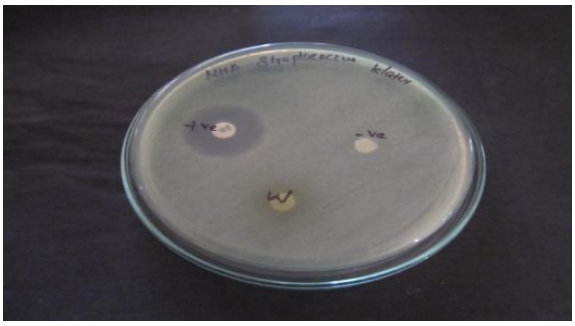


Fig 10: Streptococcus Antimicrobial Activity in Methanol Extract



Methanol extract using 1µml using antibiotic activity for this 5 bacteria's, and 1mg of Amikacin drug is used.

4.0 Conclusion

The antibacterial activity was high in methanol extract and water extract has low antibacterial activity in asthma affected bacteria's.

Table 1: Antibacterial Activity

ANTIBACTERIAL ACTIVITY

ORGANISM	METHANOL	POSITIVE Amikacin	Negative	ORGANISM	WATER	Negative	POSITIVE Amikacin
Pseudomonas	9mm	21mm	-	Pseudomonas	NZ	-	22mm
E.coli	8mm	20mm	-	E.coli	NZ	-	21mm
Klebsiella	9mm	19mm	-	Klebsiella	NZ	-	22mm
Staphylococcus	8mm	24mm	-	Staphylococcus	NZ	-	24mm
Streptococcus	8mm	21mm	-	Streptococcus	NZ	-	21mm

NZ = NO ZONE FORMATION

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