

## Research Article

# Selective Antimicrobial Properties of *Phyllanthus acidus* Leaf Extract against *Escherichia Coli*, *Aspergillus flavus* and *Aspergillus niger*

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## ABSTRACT

Various medicinal plants have been used for years in daily life to treat disease all over the world. In this project study focus the antimicrobial activity of *phyllanthus acidus* leaf extracts obtained from the village of lonkheda. The antibacterial and antifungal activities of *Phyllanthus acidus* was investigated against *Staphylococcus aureus* (gram+ve), *Escherichia coli* (gram-ve) and *Aspergillusnigra*, *Asparagillusflavus* using the Well diffusion method. The solvent type extracts were obtained by extractions with water and n- butanol respectively. The solvents were used as control whereas ampicillin were used as references for bacteria and fungal species respectively. The solvents had the effect on the microorganisms *Escherichia coli* and *Staphylococcus aureus* and had no effect on fungi.(*Aspergillusflavus* and *Aspergillusniger*) whereas ampicillin inhibited microbial growth. This study suggests that the n-butanol extracts of *Phyllanthusacidus*, can be used as herbal medicines in the control of *Escherichiacoli* and *Staphylococcus aureus* following clinical trials.

**Keywords:** Antimicrobial activity, *Phyllanthus acidus*, Bacteria, Fungi.

## INTRODUCTION

Nature has been a source of medicinal agents for thousands of years and an impressive number of modern drugs have been isolated from natural source. Interest towards traditional natural products has increased on a larger scale. In the traditional system of Ayurvedic treatment, a medicine consisting of plant products either single or in combination with others are considered to be less toxic and free from side effects when compared to synthetic drugs. *Phyllanthus acidus* is commonly known as gooseberry. It is quite a common tree found in the tropics and belongs to the plant family euphorbiaceae. This project discusses the antimicrobiological (antibacterial and antifungal) activity of leaves of *Phyllanthus acidus* also known as gooseberry. and obtain from the village of lonkheda and its possible use as cream / medicine. Its antimicrobial properties were investigated against *Escherichia coli* (gram-ve), *Staphylococcus aureus* (gram+ve), *Aspergillus flavus* and *Aspergillus niger*. By using Well diffusion method. An antimicrobial is a compound that kills or inhibits the growth

of microbes such as bacteria (antibacterial activity), fungi (antifungal activity), viruses (antiviral activity) or parasites (antiparasitic activity).

## METHOD OF EXTRACTION

Leaves of *Phyllanthus. Acidus* were collected in village of lonkheda. the 250 gm of Fresh leaves were simmered at 60°C for 3 h in 500ml water. The clear solution of the extract was simmered at 50°C to reduce its volume to 50%, followed by partition extraction with water-saturated *n*-butanol. The *n*-butanol phase was collected and then carried out further microbial assay.

Serial no.	Sample Code	E.coli	S.aureus
1	Standard	24.65	26.35
2	n-Butanol	10.27	11.47
3	Undiluted sample	18.22	10.83
4	0.1% diluted sample	12.42	10.56
5	1.0% diluted sample	9.37	10.38
6	1.5% diluted sample	10.63	10.85
7	2.0% diluted sample	11.55	9.75

