

Original Article

## PHYTOCHEMICAL AND MEDICINAL IMPORTANCE OF BAY RUM LEAVES (PIMENTA RACEMOSA)

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### ABSTRACT

Bay rum leaves (*Pimenta racemosa*) are aromatic medicinal leaves widely used in traditional medicine, cosmetics, and pharmaceutical applications. The present article highlights the botanical characteristics, phytochemical composition, and therapeutic properties of bay rum leaves. These leaves contain essential oils such as eugenol, myrcene, and chavicol which show antimicrobial, anti-inflammatory, and antioxidant activities. The study emphasizes the importance of bay rum leaves in herbal medicine and their potential applications in life science research.

**Keywords:** Bay Rum Leaves, *Pimenta Racemosa*, Medicinal Plant, Phytochemicals, Essential Oils, Antimicrobial Activity

### INTRODUCTION

Medicinal flora constitute an indispensable cornerstone of therapeutic practice and biomedical research, significantly contributing to both traditional healing systems and contemporary scientific innovation. Bay rum leaves, obtained from *Pimenta racemosa*, belong to the family Myrtaceae and are known for their aromatic and therapeutic properties. Traditionally, these leaves have been used in herbal remedies, perfumes, and antiseptic preparations. Due to their rich phytochemical content, bay rum leaves are gaining attention in botany and biomedical research for their medicinal and antimicrobial potential.

### MATERIALS AND METHODS

#### COLLECTION OF PLANT MATERIAL

Fresh bay rum leaves were collected from a cultivated medicinal garden and identified using standard botanical keys.

#### PREPARATION OF LEAF EXTRACT

The collected leaves were washed, shade-dried, and powdered. The powdered leaves were extracted using ethanol and aqueous solvents for phytochemical analysis.

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Received: 11 January 2026; Accepted: 23 February 2026; Published 04 April 2026

DOI: [10.29121/SARPS.v2.i1.2026.14](https://doi.org/10.29121/SARPS.v2.i1.2026.14)

Page Number: 28-29

Journal Title: SARPS - Journal of Advanced Research in Plant Science

Journal Abbreviation: SARPS- J. Adv. Res. Plant Sci.

Online ISSN: 3108-2521

Publisher: Granthaalayah Publications and Printers, India

Conflict of Interests: The authors declare that they have no competing interests.

Funding: This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Authors' Contributions: Each author made an equal contribution to the conception and design of the study. All authors have reviewed and approved the final version of the manuscript for publication.

Transparency: The authors affirm that this manuscript presents an honest, accurate, and transparent account of the study. All essential aspects have been included, and any deviations from the original study plan have been clearly explained. The writing process strictly adhered to established ethical standards.

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## **PHYTOCHEMICAL ANALYSIS**

Standard laboratory tests were performed to detect alkaloids, flavonoids, tannins, and essential oils present in the leaf extract.

## **ANTIMICROBIAL STUDY**

Leaf extracts were tested against selected bacterial strains using agar well diffusion method to observe antimicrobial activity.

## **RESULTS**

The phytochemical screening showed the presence of flavonoids, tannins, phenols, and essential oils in bay rum leaves. The antimicrobial test revealed that the leaf extract exhibited inhibitory effects against common bacterial strains. The leaves also showed strong antioxidant properties due to the presence of phenolic compounds.

## **DISCUSSION**

The results indicate that bay rum leaves possess significant medicinal value due to their bioactive compounds. The presence of eugenol and other essential oils contributes to antimicrobial and anti-inflammatory activities. Similar studies on aromatic medicinal plants have also reported comparable therapeutic effects, supporting the importance of bay rum leaves in traditional and modern medicine. Their applications in pharmaceuticals, cosmetics, and herbal medicine make them an important plant in life science research.

## **CONCLUSION**

Bay rum leaves (*Pimenta racemosa*) are a valuable medicinal plant with rich phytochemical composition and therapeutic properties. They show strong antimicrobial, antioxidant, and anti-inflammatory activities. Further research can explore their potential use in drug development, herbal formulations, and biomedical applications.

## **ACKNOWLEDGMENTS**

None.

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