

Review Article

Monk Fruit (*Monstera deliciosa*): A Comprehensive Review of Its Phytochemistry, Pharmacological Activities and Therapeutic Potential

Sonal Mohan Mind¹, Pragati Zirpe², Pranjal Zagade³, Shraddha Khot⁴

¹Assistant Professor, ^{2,3,4}Student, Chandrabhaga College of Pharmacy, Katphal Baramati, Pune, India

INFO

Corresponding Author:

Sonal Mohan Mind, Chandrabhaga College of Pharmacy, Katphal Baramati, Pune, India

E-mail Id:

sonalmind01@gmail.com

Orcid Id:

<https://orcid.org/>

How to cite this article:

Mind S M, Zirpe P, Zagade P, Khot S. *Monstera Deliciosa* (Mock Fruit/Mexican Breadfruit). *Int. J. Med. Pharm. Nat.* 2026; 2(2): 1-3.

Date of Submission: 2026-07-15

Date of Acceptance: 2026-08-19

ABSTRACT

Monstera deliciosa is a tropical climbing plant valued as an ornamental species and for its edible ripe fruit. This review summarises taxonomy, botany, distribution, cultivation, nutritional profile, phytochemicals, traditional uses, pharmacological potential, commercial applications, safety, and future prospects. The ripe fruit contains carbohydrates, dietary fibre, vitamin C, potassium and bioactive phenolics. Experimental studies suggest antioxidant, antimicrobial and anti-inflammatory potential, although more clinical research is needed. Phytochemical analyses have identified various bioactive compounds in different plant parts, including alkaloids, flavonoids, phenolic compounds, terpenoids, and saponins. The review highlights the antibacterial properties of *Monstera* extracts against pathogenic bacteria, with proposed mechanisms involving cell membrane disruption, enzyme inhibition, and oxidative stress induction. Additionally, the antioxidant potential of the plant is discussed, attributed to its ability to scavenge free radicals and mitigate oxidative stress. Cytotoxic activities against cancer cell lines are also examined, suggesting potential anticancer applications. Other reported pharmacological activities, such as antiinflammatory, immunomodulatory, and insecticidal effects, are also explored. This review underscores the significant medicinal value of *Monstera* plants and the need for further research to exploit their therapeutic potential in developing natural product-based treatments.

Keywords: *Monstera Deliciosa*, MOCK FRUIT, Mexican Breadfruit, Phytochemicals, Nutrition, Medicinal Plants

Introduction

throat. *Monstera deliciosa* belongs to the Araceae family and is native to southern Mexico and Central America.

Monstera deliciosa belongs to the Araceae family and *deliciosa* belongs to the Araceae family and is native to southern Mexico and Central America. Phytochemical has become popular worldwide as a houseplant. When analyses have identified various bioactive compounds in fully ripe, its fruit has a distinctive tropical flavor often different plant parts, including alkaloids, flavonoids, phenolic compared with pineapple and banana. Unripe fruit contains compounds, terpenoids, and saponins. calcium oxalate crystals that can irritate the mouth and

International Journal of Medicinal Pharmacy and Naturopathy

Copyright (c) 2026: Author(s). Published by Advanced Research Publications

Taxonomy

Kingdom

Plantae; Family: Araceae; Genus: *Monstera*; Species: *M. deliciosa*. Botanical description

A vigorous evergreen climber with aerial roots, perforated leaves, and a cylindrical multiple fruit formed from fused berries. Distribution

Native to tropical forests of Mexico, Guatemala, Costa Rica and Panama; cultivated globally in tropical and subtropical regions. Native to tropical forests of Mexico, Guatemala, Costa Rica and Panama; cultivated globally in tropical and subtropical regions.

Cultivation

Requires warm humid conditions, indirect light, organic-rich well-drained soil, and support for climbing. Requires warm humid conditions, indirect light, organic-rich well-drained soil, and support for climbing.

Nutritional composition

Ripe fruit provides carbohydrates, fiber, vitamin C, potassium, calcium, magnesium and small amounts of protein and fat.

Phytochemicals

Phenolic compounds, flavonoids, carotenoids, tannins and other antioxidant constituents have been reported in different plant parts

Traditional uses

Used mainly as a food; some communities use leaves and roots in traditional remedies, though scientific validation is limited. communities use leaves and roots in traditional remedies, though scientific validation is limited. Used mainly as a food; some communities use leaves and roots in traditional remedies, though scientific validation is limited. **Pharmacological activities**

Preclinical studies indicate antioxidant, antimicrobial and anti-inflammatory activities. Evidence in humans remains insufficient. antimicrobial and anti-inflammatory activities. The pharmacological activity of *Monstera* plants are influenced by their unique phytochemical makeup. The bioactivities of various plant components have been the subject of several research, showing

their potential medicinal uses. Details of pharmacological activities reported in different.

Antimicrobial

The *Monstera* plant's antibacterial activity is mediated by a complicated process involving a number of variables and bioactive substances. complex process involving various variables and bioactive substances.

Antidiabetic

Meenakumari and Jella¹⁰ investigated the antidiabetic and antioxidant properties of the ethanolic extract of *Monstera adansonii* flowers. Their acute toxicity study confirmed the extract's safety up to 2000 mg/kg in mice. In diabetic rats, the extract significantly reduced blood glucose levels, comparable to Glibenclamide, and improved lipid profiles, kidney function, and liver enzyme activities. The extract also demonstrated antioxidant activity by reducing malondialdehyde (MDA) levels and enhancing liver enzymatic antioxidants, indicating reduced lipid peroxidation and improved oxidative stress response. Histopathological examinations showed no significant pathological changes in liver and kidney tissue.

Antimicrobial

The *Monstera* plant's antibacterial Activity is mediated by a complicated process. involving a number of variables and bioactive substances. complex process involving various variables and bioactive substances.

Commercial applications

Popular ornamental plant, edible speciality fruit, landscaping and interior decoration.

Safety

Only fully ripe fruit should be consumed. Unripe fruit contains calcium oxalate crystals causing irritation. oxalate crystals causing irritation.

Future prospects

Further work is needed on phytochemical characterisation, clinical studies, food processing and sustainable cultivation. sustainable cultivation. phytochemical characterisation, clinical studies, food processing and sustainable cultivation. Further work is needed on phytochemical characterisation, clinical

studies, food processing and sustainable cultivation. Further work is needed on phytochemical characterisation, clinical studies, food processing and sustainable cultivation.

Conclusion

Monstera deliciosa is an important ornamental and emerging functional fruit with promising nutritional and pharmacological potential, but further research is essential.

References

1. Li P, Tang H, Shi C, Xie Y, Zhou H, Xia B, Zhang C, Chen L, Jiang L. Untargeted metabolomics analysis of *Mucor racemosus* Douchi fermentation process by gas chromatography with time-of-flight mass spectrometry. *Food Science & Nutrition*. 2019 May;7(5):1865-74.
2. Li P, Tang H, Shi C, Xie Y, Zhou H, Xia B, Zhang C, Chen L, Jiang L. Untargeted metabolomics analysis of *Mucor racemosus* Douchi fermentation process by gas chromatography with time-of-flight mass spectrometry. *Food Science & Nutrition*. 2019 May;7(5):1865-74.
3. Zhang J, Li L, Li Q, Chen W, Huang J, Guo Y, Ji G. Multiscenario Land Use Change Simulation and Its Impact on Ecosystem Service Function in Henan Province Based on FLUS-InVEST Model. *Ecology and Evolution*. 2025 Mar;15(3):e71111.
4. Rao VU, Viteesha V, Suma K, Nagababu P. Evaluation of phytochemical constituents, antibacterial and antioxidant activities of *Monstera deliciosa* Liebm. stem extracts. *World J. Pharm. Pharm. Sci.* 2015 Sep 5;4:1422-33.
5. Mukherjee S, Karati D. Exploring the phytochemistry, pharmacognostic properties, and pharmacological activities of medically important plant *Momordica charantia*. *Pharmacological Research-Modern Chinese Medicine*. 2023 Mar 1;6:100226.