

Special Issue

Exploring Plant-Derived Bioactive Compounds: Therapeutic, Insecticidal and Antimicrobial Applications

Message from the Guest Editor

Harnessing plants as sources of biomedical and biotechnologically relevant compounds supports sustainable innovation and the UN 2030 Sustainable Development Goals. It promotes human and environmental health, biodiversity conservation, and eco-friendly production. This Special Issue explores the biomedical and biotechnological potential of plant-derived compounds—from primary metabolites (proteins, lipids, carbohydrates, nucleic acids) to secondary metabolites (alkaloids, flavonoids, terpenoids, phenolics, saponins, etc.), whether in complex mixtures (e.g., extracts, essential oils) or as isolated molecules. Topics include but are not limited to:

- Antimicrobial, antiparasitic, and antibiofilm activities
- Pharmacological effects (e.g., anti-inflammatory, antioxidant, neuroprotective, antitumor, antidiabetic)
- Toxicity assessments (in vitro and in vivo)
- Insecticidal properties and vector/pest control
- Ecotoxicological studies
- Innovative plant-based formulations

We welcome original research, reviews, and case studies highlighting plant compounds with biomedical or biotechnological value.

Guest Editor

Dr. Thiago Henrique Napoleão

Departamento de Bioquímica, Centro de Biociências, Universidade Federal de Pernambuco, Recife, Pernambuco 50670-901, Brazil

Deadline for manuscript submissions

31 January 2026



Plants

an Open Access Journal
by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed



mdpi.com/si/243020

Plants
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
plants@mdpi.com

[mdpi.com/journal/
plants](https://mdpi.com/journal/plants)





Plants

an Open Access Journal
by MDPI

Impact Factor 4.1
CiteScore 7.6
Indexed in PubMed



[mdpi.com/journal/
plants](https://mdpi.com/journal/plants)



About the Journal

Message from the Editor-in-Chief

Plants is an open access journal which provides an advanced forum for research findings in areas related to plant function, its physiology, biology, taxonomy, stresses, and its interactions with other organisms. It publishes original research articles, reviews, reports, conference proceedings (peer reviewed full articles) and communications. In original research papers, it is important that full experimental details are provided. We also encourage timely reviews and commentaries on topics of interest to the plant research community.

Editor-in-Chief

Prof. Dr. Dilantha Fernando

Department of Plant Science, University of Manitoba, Winnipeg, MB
R3T 2N2, Canada

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, PubAg, AGRIS, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q1 (Plant Sciences) / CiteScore - Q1 (Ecology, Evolution, Behavior and Systematics)