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Malavika J, Athira P, Gayathri G, Slowmo M, Thenmozhi Krishnasamy

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Abstract:

Abstract: Plants are a highly diverse group of organisms that produce a wide range of biomolecules with distinct chemical compositions. Despite the advancements in contemporary therapies, medicinal herbs have been increasingly important in recent years. The genus Oxalis, belonging to the family Oxalidaceae, encompasses a diverse range of plants, many of which have been long prized for their therapeutic properties, spanning from contemporary pharmaceutical research to traditional herbal therapies. The present investigation comprehensively evaluated the phytochemical profile and in vitro antioxidant potential of Oxalis latifolia crude extracts. Among the solvent systems examined, the ethanolic leaf and stem extracts yielded the highest extractive yield and were particularly enriched in phenols, tannins, and flavonoids, correlating with promising antioxidant activity. The biosynthesised silver nanoparticles derived from the plant extract were systematically characterised using UV-visible spectroscopy, scanning electron microscopy, energy-dispersive X-ray spectroscopy, X-ray diffraction analysis, and Fourier transform infrared spectroscopy. Confirming their successful formation and crystallisation. Furthermore, the synthesised nanoparticles unveiled significant in vitro anti-inflammatory activity, highlighting the fundamental therapeutic potential of this species.

Declarations

Author Informations

Malavika J
Affiliation: PG and Research Department of Botany, Kongunadu Arts and Science College, GN Mills, Coimbatore, Tamil Nadu- 641 029, India..
Contribution: Conceptualization, Data Curation, Investigation, Methodology, Writing - Original Draft.

Athira P
Affiliation: PG and Research Department of Botany, Kongunadu Arts and Science College, GN Mills, Coimbatore, Tamil Nadu- 641 029, India..
Contribution: Conceptualization, Data Curation, Methodology.

Gayathri G
Affiliation: PG and Research Department of Botany, Kongunadu Arts and Science College, GN Mills, Coimbatore, Tamil Nadu- 641 029, India..
Contribution: Investigation, Methodology.

Slowmo M
Affiliation: PG and Research Department of Botany, Kongunadu Arts and Science College, GN Mills, Coimbatore, Tamil Nadu- 641 029, India..
Contribution: Investigation, Methodology.

Thenmozhi Krishnasamy
Corresponding Author
Affiliation: PG and Research Department of Botany, Kongunadu Arts and Science College, GN Mills, Coimbatore, Tamil Nadu- 641 029, India..
Contribution: Conceptualization, Formal analysis, Project administration, Supervision, Validation, Writing - Review & Editing.

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Conflict of Interest

The authors declare no conflicting interest.

Data Availability

Upon request

Ethics Statement

Not applicable

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