



REVIEWER'S REPORT

Manuscript No.: IJAR-50612

Date: 13-03-2025

Title: Isolation and estimation of Colchicine- a valuable phytochemical in the plant parts of Iphigenia stellata Blatt.using High Performance Liquid Chromatography

Recommendation:

- Accept as it is.....**YES**.....
- Accept after minor revision.....
- Accept after major revision
- Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality	√			
Techn. Quality		√		
Clarity		√		
Significance			√	

Reviewer's Name: Mir Tanveer

Reviewer's Decision about Paper: **Recommended for Publication.**

Comments (*Use additional pages, if required*)

Reviewer's Comment / Report

The article presents a thorough investigation into the isolation and estimation of colchicine from different plant parts of *Iphigenia stellata Blatt.* using solvent extraction followed by High-Performance Liquid Chromatography (HPLC). The research provides a structured approach to identifying the quantity of colchicine present in various plant parts, including seeds, corms, and capsule walls. The detailed methodology involving solvent extraction, purification, crystallization, and vacuum drying effectively illustrates the isolation process. The study reports significant findings, with the highest colchicine concentration observed in the seeds, highlighting the plant's potential as a natural source of colchicine.

The abstract concisely outlines the research objectives, methodology, and key findings, providing a clear overview of the study. The introduction successfully establishes the relevance of *Iphigenia stellata Blatt.* by detailing its classification, natural habitat, and medicinal significance. The description of colchicine's pharmacological applications, including its use in the treatment of gout, familial Mediterranean fever, and cardiovascular conditions, further emphasizes the importance of its isolation and quantification.

The methodology section is well-documented, providing precise details on the collection site, preparation, and extraction process. The geographical details of Panchgani and the conditions under

International Journal of Advanced Research

Publisher's Name: Jana Publication and Research LLP

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which plant parts were collected and preserved add valuable context to the research. The step-by-step breakdown of the solvent extraction process, including the use of methanol, chloroform, and ethyl acetate, provides a comprehensive account of the experimental procedures. The use of vacuum drying and crystallization techniques for obtaining pure colchicine powder is described with clarity, ensuring reproducibility of the study.

The study successfully utilizes HPLC for quantitative estimation of colchicine, and the reported results are systematically presented. The quantification findings provide a clear indication of colchicine concentration in different plant parts, with seeds containing the highest amount. The extraction yields from seeds, corms, and capsule walls further validate the study's effectiveness in isolating colchicine in powder form.

Overall, the article is well-structured, informative, and methodically sound. It presents a significant contribution to phytochemical research by demonstrating an efficient approach to colchicine isolation from *Iphigenia stellata* Blatt., with potential applications in pharmacology and plant biotechnology.
