

REVIEWER'S REPORT

Manuscript No.: IJAR-51098

Date: 19-04-2025

Title: Assessment of pollen of American weed *Parthenium hysterophorus* L. in the environment of University College of Science, Saifabad, Osmania University, Masab Tank, Hyderabad, T.S., India

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: Tahir Ahmad

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

Comments (*Use additional pages, if required*)

Reviewer's Comment / Report

General Assessment:

This study provides a thorough aerobiological survey focused on the presence and prevalence of *Parthenium hysterophorus* pollen in the environment of University College of Science, Saifabad, Osmania University, Hyderabad. The work addresses a relevant public health issue by examining a potent aeroallergen over a full annual cycle. The data generated has implications for allergy forecasting, public health planning, and botanical monitoring.

Abstract:

The abstract succinctly summarizes the objective, methodology, and significant findings of the study. It effectively communicates the year-long surveillance of airborne bioparticles and emphasizes the dominance of *Parthenium hysterophorus* pollen in the local atmosphere. The mention of type I hypersensitivity reactions and contact dermatitis helps anchor the significance of the findings in a clinical context.

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Keywords:

The keywords are well-chosen and clearly reflect the core focus areas of the study, including the scientific field (aerobiology), the specific allergen (*Parthenium*), and the geographic location. This enhances discoverability and contextual clarity for the reader.

Introduction:

The introduction provides a good rationale for the study by linking the prevalence of aeroallergens to human health. It appropriately situates the location of the study in relation to its institutional and environmental context, and effectively introduces *Parthenium hysterophorus* as a focal point of aerobiological concern. The explanation of the college's landscape helps justify its selection as a study site due to its varied flora.

Materials and Methods:

The methodology is clearly described and grounded in established aerobiological practices. The use of a gravitational aeroscope modeled after Lakhanpal and Nair's design adds credibility, and the procedural clarity regarding sampling intervals, slide preparation, and microscopic analysis ensures reproducibility. The year-long duration enhances the robustness of the dataset and captures seasonal variations. Use of photographic documentation through a digital microscope adds a visual confirmation layer to the analysis.

Scientific and Societal Relevance:

The study highlights the environmental prevalence of *Parthenium hysterophorus* pollen, a known and potent allergen, within a densely populated educational environment. The findings have important implications for public health, particularly for students and faculty who may be chronically exposed. The research also contributes to the broader understanding of urban aerobiology in South India and supports the case for environmental monitoring in educational and residential areas.

Language and Style:

The manuscript maintains a formal scientific tone and is generally well-written. Technical terminology is appropriately used, and the narrative flows logically. The clarity in presentation ensures that both specialists and readers with general scientific knowledge can understand the content.

Overall Evaluation:

This paper makes a meaningful contribution to the field of aerobiology and environmental health sciences. It offers a comprehensive and location-specific assessment of a critical allergenic component in urban air and presents its findings in a clear and structured manner. The work is commendable for its methodological rigor and relevance to the health and wellbeing of the academic community in Hyderabad.

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