

REVIEWER'S REPORT

Manuscript No.: IJAR-53486

Date: 23-08-2025

Title: Beyond field success: insights into functional and numerical response of the predatory mite *Typhlodromalus aripo* and the role of cassava exudate in predatory performance

Recommendation:

Accept as it isYES.....

Accept after minor revision.....

Accept after major revision

Do not accept (*Reasons below*)

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

Reviewer Name: Tahir Ahmad

Reviewer's Comment for Publication.

The title is informative and engaging, extending the scope “beyond field success” to highlight mechanistic insights into the behavior of *Typhlodromalus aripo*. It indicates the dual focus on both **functional and numerical responses** as well as the **role of cassava exudate**. The title successfully communicates the study's depth, subject, and significance within biological control research.

Abstract

The abstract is comprehensive and well-structured, summarizing the research's objectives, methods, results, and conclusions.

- **Research Context & Objective:** The study is framed around the limited understanding of *T. aripo*'s functional and numerical responses, despite its importance as a biological control agent for *Mononychellus tanajoa*.

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- **Methodology:** Experimental conditions are clearly stated (controlled lab conditions, prey stages, prey densities, presence/absence of cassava exudate), enhancing reproducibility.
- **Key Findings:** The abstract provides detailed results on:
 - Functional response type (Type II across all prey stages),
 - Attack rates and handling times,
 - Variation in predation and reproductive parameters with prey stage,
 - Differential impact of cassava exudate on predation and oviposition.
- **Interpretation:** The concluding sentences highlight how the results inform both immediate biological control application and broader predator-prey ecological understanding. The role of cassava exudate is discussed with nuance, reflecting its dual influence on predatory behavior and reproductive output.
- **Language and Clarity:** The language is technical yet clear, making the abstract suitable for a scientific readership familiar with predator-prey dynamics and biological control.

Overall, the abstract successfully integrates complex findings into a coherent summary that is both informative and impactful.

Introduction

The introduction provides a strong theoretical and empirical grounding for the study.

- **Conceptual Framework:** It opens with a clear articulation of the relevance of **functional and numerical responses** in biological control and predator-prey dynamics. The definitions provided are precise and academically appropriate.
- **Scientific Background:** Foundational literature is cited (e.g., Holling 1959, 1961), with a clear explanation of the three types of functional responses. These descriptions contextualize the importance of the study's findings and allow the reader to anticipate how *T. aripo* might fit into existing models.
- **Relevance to Biological Control:** The discussion situates these predator response metrics as practical tools in the **selection and comparison of candidate biological control agents**, which aligns well with current trends in trait-based ecological research.

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- **Logical Flow:** The introduction logically progresses from general concepts (functional and numerical responses) to specific goals of the study, setting up a focused and justified research agenda.

The introduction demonstrates strong academic rigor and a solid grasp of ecological theory. It establishes a compelling rationale for the study and effectively prepares the reader for the subsequent methodological and analytical sections.

General Observations

- The **alignment between abstract and introduction** is strong, with both reflecting the study's dual focus on behavioral (functional) and reproductive (numerical) traits of the predator.
- The **scientific terminology** is well-used and appropriate for an ecological or entomological audience.
- The text reflects **methodological sophistication** and a **clear theoretical orientation**, grounded in both classical ecological models and applied biological control considerations.