

Name:	UTTAR PRADESH JOURNAL OF ZOOLOGY
Manuscript Number:	Ms_UPJOZ_4504
Title of the Manuscript:	Entomopathogenic Fungi: Dual Role in Insect Control and Plant Disease Management
Type of the Article	Review Article

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This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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PART 1: Comments

	Reviewer's comment	Author's Feedback <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</i>
Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.	Information related to the implementation of entomopathogenic fungi in the search for solutions to the challenges that humanity has historically faced in the control of pests and diseases in crops represents a valuable contribution to the scientific community to establish the basis for new research. However, it is important to delve deeper into the review of concepts and explanation of the changes, developments and perspectives that have taken place in the study of entomopathogenic fungi to avoid repeating what is already generally known on the subject.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title seems appropriate to me. No suggestions	
Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here.	I suggest that the following points be reviewed to improve the clarity of what is intended to be communicated: 1. The coherence and connection of the sentence "The biology, mechanisms, and applications of EPF, highlighting their ability to parasitize insects through adhesion, enzymatic penetration, and toxin production while simultaneously managing plant pathogens via antibiosis, competition, systemic resistance induction, and direct parasitism." The sentence is not clear: I suggest deleting it. 2. The sentence "As agriculture faces mounting pressures from climate change, pest resistance, and ecological degradation, EPF stands as a promising solution, contributing to soil health, biodiversity conservation, and reduced chemical dependency.", is repetitive, it does not	

	communicate anything new with respect to what has already been described at the beginning of the text. I suggest deleting it. 3. The paragraph: "This comprehensive review underscores the importance of EPF in shaping resilient agroecosystems, driving the transition toward sustainable agriculture while ensuring food security and environmental sustainability. The integration of cutting-edge technologies and policy support will be pivotal in scaling the adoption of EPF-based solutions, positioning these fungi as a cornerstone in the future of agricultural innovation and sustainability.", is repetitive. I suggest checking whether the content of the document reflects a comprehensive review of all the concepts mentioned here. I also suggest making this paragraph more concise. 4. The keyword "Formulations" is not found in the abstract.	
Is the manuscript scientifically, correct? Please write here.	The information described in the document is correct. However, I suggest that the scope of the review be contextualized; for example, type of studies reviewed and period of the referenced studies. I suggest expanding the information regarding the relevant background to contextualize the work and include the interpretation of the findings in relation to the current state of knowledge, the theoretical and practical implications, as well as the limitations of the review.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them	The references are adequate and recent. However, the document in general lacks references, many of the paragraphs and sentences described are not referenced in the different sections.	

in the review form.	For example: 1. In the section Entomopathogenic Fungi (EPF) and Their Ecological Significance: "Their interactions with other soil microbiota further enhance their role in maintaining soil health and suppressing plant pathogens." 2. In the section Role of EPF in the Ecosystem: "EPF exhibit antagonistic interactions with plant pathogens, such as fungi and nematodes, through mechanisms including antibiosis, competition for nutrients, and production of antifungal compounds. Their colonization of plant roots as endophytes improves plant resilience to biotic and abiotic stresses, fostering a healthier agroecosystem". 3. In the section Historical Perspective and Early Applications section: "Advances in microbial production and formulation technologies during the latter half of the 20th century spurred the development of EPF-based biopesticides. The introduction of <i>Beauveria bassiana</i> as a commercial biopesticide in the 1980s expanded the use of EPF to control pests in various crops, including cotton, vegetables, and fruit orchards. These early applications laid the groundwork for the integration of EPF into modern integrated pests. management (IPM) systems." I suggest reviewing the references of the document in its entirety and putting the corresponding references. In the "References" section, I suggest: 1. Check the format for consistency. For example: "1. Islam, W., Adnan, M., Shabbir, A., Naveed, H., Abubakar, Y. S., Qasim, M., ... & Ali, H. (2021). Insect-fungal-interactions: A detailed review on entomopathogenic fungi pathogenicity to combat insect pests. <i>Microbial Pathogenesis</i>, 159, 105122."	
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	"..."? - I suggest putting the DOI corresponding to each reference. - I suggest checking the correct spelling of scientific names. For example: "9. Murphy, S. T., & Moore, D. (1990). Biological control of the coffee berry borer, <i>Hypothenemus hampei</i> (Ferrari) (Coleoptera, Scolytidae): previous programmes and possibilities for the future." <i>Hypothenemus hampei</i> In the section "Entomopathogenic Fungi (EPF) and Their Ecological Significance", I suggest checking the correct spelling of the following reference: "Beyond insect pathogenicity, EPF contribute to ecological balance by recycling nutrients from decomposed insect cadavers into the soil, promoting soil fertility and plant growth (Belousova et.al., 202)."	
Is the language/English quality of the article suitable for scholarly communications?	The language and quality of the English are adequate. However, I suggest checking whether the plurality or singularity of the acronym "EPF" is applied grammatically correctly in some paragraphs. For example: "Entomopathogenic fungi (EPF) are fundamental biological agents in modern agriculture, offering ecological solutions for integrated pest and disease management." (Plural) "The infection process of EPF begins with the adhesion of the fungal spores (conidia) to the insect cuticle." (Singular) I suggest checking the uniformity of the acronym "EPF" throughout the document.	

<u>Optional/General</u> comments	In general, the information in all the sections is superficial. I suggest expanding the information by highlighting the relevant findings of each section. For example: In section II, subtitle "Classification and Diversity of EPF": No relevant information is described regarding the characteristics that determine the taxonomic classification of the different genera. I suggest considering the correct distribution of the information, some paragraphs repeat the information and are found in different sections. For example: The section "Modes of Action Against Insect Pests" and the section "Mechanisms of Infection in Insect Hosts". In the section "Examples of EPF with Dual Functions", review the correct spelling of the scientific names: "Similarly, <i>Lecanicilliumlecanii</i> effectively manages greenhouse pests like aphids and ..."	
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PART 2:

	Reviewer's comment	Author's comment (if agreed with the reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Are there ethical issues in this manuscript?	<u>(If yes, Kindly please write down the ethical issues here in detail)</u>	
Are there competing interest issues in this manuscript?	There are no issues of competing interests in this manuscript.	
If plagiarism is suspected, <u>please provide related proofs or web links.</u>	There is no suspicion of plagiarism	

PART 3: Declaration of Competing Interest of the Reviewer:

Here reviewer should declare his/her competing interest. If nothing to declare he/she can write "I declare that I have no competing interest as a reviewer"

PART 4: Objective Evaluation:

Guideline	MARKS of this manuscript
Give OVERALL MARKS you want to give to this manuscript (Highest: 10 Lowest: 0) Guideline: Accept As It Is: (>9-10) Minor Revision: (>8-9) Major Revision: (>7-8) Serious Major revision: (>5-7) Rejected (with repairable deficiencies and may be reconsidered): (>3-5) Strongly rejected (with irreparable deficiencies.): (>0-3)	Strongly rejected: 3 Based on the review, I suggest that you consider expanding the information and complementing it with a discussed analysis of the findings.

Editorial Comments (This section is reserved for the comments from journal editorial office and editors):

	Author's Feedback

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