

Review Form 3

Journal Name:	Journal of Advances in Biology & Biotechnology
Manuscript Number:	Ms_JABB_128751
Title of the Manuscript:	Biology of Greater Wax Moth, <i>Galleria mellonella</i>,(Galleridae: Lepidoptera) using Artificial Diet
Type of the Article	

General guidelines for the Peer Review process:

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. To know the complete guidelines for the Peer Review process, reviewers are requested to visit this link:

<https://r1.reviewerhub.org/general-editorial-policy/>

Important Policies Regarding Peer Review

Peer review Comments Approval Policy: <https://r1.reviewerhub.org/peer-review-comments-approval-policy/>

Benefits for Reviewers: <https://r1.reviewerhub.org/benefits-for-reviewers>

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.	This manuscript offers valuable insights into the artificial rearing of <i>Galleria mellonella</i> , a key model in insect biology and biocontrol research. It provides a cost-effective method for mass-rearing larvae, crucial for entomopathogenic fungi studies. The findings enhance the efficiency of <i>G. mellonella</i> use in pathogen isolation and virulence assays, contributing significantly to both ecological and biomedical research.	
Is the title of the article suitable? (If not please suggest an alternative title)	The title, "Biology of Greater Wax Moth, <i>Galleria mellonella</i> (Galleridae: Lepidoptera) using Artificial Diet," is generally suitable but could be refined for clarity and specificity. Here are a few considerations: The term "Biology" is broad and could be made more specific by highlighting the focus on rearing or mass-culturing using an artificial diet. Including the word "mass-rearing" or "artificial rearing" might better reflect the core focus of the study, which is the development of an artificial diet for culturing <i>G. mellonella</i> . A more refined version might be: "Mass Rearing and Biological Characteristics of <i>Galleria mellonella</i> (Lepidoptera: Pyralidae) Using an Artificial Diet." This version clarifies the focus on both the rearing method and biological parameters studied.	

Review Form 3

<p>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.</p>	<p>The abstract is generally informative but could benefit from greater clarity and focus. The primary objective of the study—mass-rearing <i>Galleria mellonella</i> using a modified artificial diet could be stated more explicitly at the beginning. Including a brief mention of the specific modifications made to the diet compared to previous studies would provide more context. The biological parameters, such as larval duration, fecundity, and adult emergence, are well-listed, but their significance in relation to existing research could be emphasized. Additionally, the abstract would be strengthened by highlighting the broader applications of the findings, particularly in biocontrol research and pathogen isolation. A concluding sentence summarizing the impact of the research would also provide a more cohesive overview.</p>	
<p>Is the manuscript scientifically, correct? Please write here.</p>	<p>The manuscript is scientifically sound, with clear methods and accurate biological parameters for mass-rearing <i>Galleria mellonella</i> on an artificial diet. The results align with prior research, particularly regarding larval and pupal durations, fecundity, and adult emergence. However, the discussion could benefit from further clarification on the observed discrepancies with previous studies, particularly regarding the larval duration. Additionally, more explanation on how the artificial diet influences pathogen susceptibility and immune responses in <i>G. mellonella</i> would enhance the study's relevance to biocontrol applications. Including details on statistical methods would also strengthen the overall scientific rigor of the manuscript.</p>	
<p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p>	<p>The references in the manuscript are generally sufficient, especially in terms of studies related to the artificial rearing of <i>Galleria mellonella</i> and its biological characteristics. Notably, works by Birah et al. (2008), Chandel et al. (2003), and Desai et al. (2019) are appropriately cited, providing a solid foundation for comparison. However, there is room for the inclusion of more recent studies that explore the broader applications of <i>G. mellonella</i> in entomopathogen isolation and biocontrol research, particularly in light of recent advancements in microbial control agents or the use of alternative artificial diets. A few additional references on the use of <i>G. mellonella</i> for pathogen screening and biocontrol in the past 5 years would enhance the manuscript's relevance to current research trends. For example, more studies on the use of modified diets in insect rearing (especially in relation to biocontrol applications) or the influence of diet on pathogen susceptibility could offer a more up-to-date context.</p>	
<p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>The language and English quality of the article are generally suitable for scholarly communication, but some areas could benefit from refinement. While the manuscript is understandable, a few sentences are awkwardly constructed or lack clarity. For example, phrases such as "The mean larval period was 3.2 ± 0.08 for 1st instar..." could be revised to improve readability and flow, possibly by rephrasing it as "The mean larval duration for the first instar was 3.2 ± 0.08 days." Similarly, some transitions between sections could be smoother, and the use of passive voice in certain areas might be replaced with a more direct, active voice for greater impact.</p> <p>Minor grammatical issues, such as inconsistent use of punctuation and awkward phrasing, can also be improved. Additionally, the manuscript could benefit from a more concise writing style in some places, which would enhance clarity without sacrificing detail. Overall, with some revisions, the manuscript could meet higher standards for scientific communication.</p>	
<p>Optional/General comments</p>	<p>The study would benefit from including a control group reared on natural food sources for comparative purposes.</p> <ul style="list-style-type: none"> • Lack of Statistical Detail: More transparency regarding statistical methods and significance testing is needed to strengthen the interpretation of the results. • Biological Inconsistencies: The prolonged developmental period requires more in-depth discussion, particularly regarding its causes and implications. • Nutritional Analysis of Diet: The study should provide more information on the nutritional composition of the diet to verify its adequacy for optimal larval growth. • Limited Discussion on Pathogen Isolation: The potential advantages of using <i>G. mellonella</i> for entomopathogenic fungi research should be discussed in more depth. • Future Research Directions: The paper would benefit from a broader discussion on future research, particularly on optimizing the diet and its applications in mass rearing. <p>By addressing these points, the paper could offer more comprehensive and practical insights into the use of artificial diets for <i>G. mellonella</i> and its applications in biocontrol research.</p>	

PART 2:

	<p>Reviewer's comment</p>	<p>Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)</p>
<p>Are there ethical issues in this manuscript?</p>	<p><i>(If yes, Kindly please write down the ethical issues here in details)</i></p>	

Reviewer Details:

<p>Name:</p>	<p>Muzafar Riyaz</p>
<p>Department, University & Country</p>	<p>St Xavier's College, India</p>