

Name:	UTTAR PRADESH JOURNAL OF ZOOLOGY
Manuscript Number:	Ms_UPJOZ_4585
Title of the Manuscript:	“IMMUNOSTIMULATORY EFFECT OF BETAL LEAF EXTRACT ON Labeo catla AND ITS RESISTANCE AGAINST Aeromonas hydrophila”
Type of the Article	

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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.	This manuscript holds significant importance for the scientific community, particularly in the fields of aquaculture, fish immunology, and sustainable disease management. The manuscript presents valuable research on the immunostimulatory effects of betel leaf extract in Labeo catla, demonstrating its potential as a natural alternative to antibiotics in aquaculture. Given the rising concerns about antibiotic resistance, this study is particularly important as it offers a sustainable and eco-friendly approach to disease management. The findings provide strong evidence that betel leaf extract enhances growth performance, immune response, and disease resistance, which can	Noted

	<p>contribute significantly to the improvement of fish farming practices. The research also adds to the existing knowledge of plant-derived bioactive compounds in aquaculture, making it a relevant and timely study for the scientific community.</p> <p>How does the immunostimulatory effect of betel leaf extract in Labeo catla compare to other known herbal immunostimulants used in aquaculture, and what are the potential implications for large-scale fish farming?</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p>The current title of the article, "IMMUNOSTIMULATORY EFFECT OF BETEL LEAF EXTRACT ON Labeo catla AND ITS RESISTANCE AGAINST Aeromonas hydrophila," is clear and informative. However, it could be made more concise and engaging while maintaining its scientific accuracy. Suggested Alternative Titles:</p> <ol style="list-style-type: none"> 1. "Enhancing Immunity and Disease Resistance in Labeo catla Using Betel Leaf Extract" 2. "Betel Leaf Extract as a Natural Immunostimulant for Labeo catla Against Aeromonas hydrophila" 3. "Effects of Betel Leaf Extract on Growth, Immunity, and Disease Resistance in Labeo catla" 4. "Plant-Based Immunostimulation: Betel Leaf Extract for Enhancing Labeo catla Health and Disease Resistance" 	<p>Noted</p>

<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>	<ol style="list-style-type: none"> 1. It could start with a more concise introduction to the broader context of the study, such as the global importance of aquaculture, the challenges posed by antibiotic resistance, and the potential of plant-based alternatives. Example: "Aquaculture plays a vital role in global fish production, but rising antibiotic resistance threatens the sustainability of this industry. This study explores the potential of betel leaf extract as a natural immunostimulant to improve fish health." 2. The experimental setup is well-explained, but a brief mention of the experimental duration (45 days) and the evaluation of multiple immune and growth parameters could be stated earlier for better readability 3. Mention whether the improvements observed in growth and survival rates were statistically significant (P-values if relevant). 4. The results are presented well, but it would be beneficial to include a summary of the comparison between the treatments and the control group in a more structured way. 5. Repetitive information on experimental setup (if overly detailed). 	
<p>Is the manuscript scientifically, correct? Please write here.</p>	<p>Well-Designed Experiment</p> <ol style="list-style-type: none"> 1. The study employs a Completely Randomized Design (CRD) with five treatments and four replications, which is a standard and reliable experimental approach. 2. Proper controls (T0) and treatment variations (T1–T4) are used. <p>Potential Areas for improvement:</p> <ol style="list-style-type: none"> 1. Lack of Details on Statistical Methods The manuscript presents results with statistical significance (P-values, means, and standard errors) but does not explicitly state which statistical tests were used. Clarifying whether ANOVA, Tukey's test, or another method was applied would enhance transparency. 2. Reproducibility and Dosage Optimization The study concludes that 0.8% betel leaf extract is the optimal dosage. However, long-term effects or potential toxicity of prolonged exposure to higher concentrations are not discussed. A recommendation for further studies could strengthen the manuscript. <p>Minor improvements, such as clarifying statistical methods, providing deeper biochemical explanations, and discussing long-term effects, would enhance its scientific rigor and reproducibility.</p>	<p>Noted</p>

Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	Limited References on Betel Leaf Extract in Aquaculture While the manuscript discusses betel leaf extract's benefits, most cited works broadly cover herbal immunostimulants rather than specific studies on betel leaf in fish immunity. Suggestion: Add more targeted studies on betel leaf extract and its antibacterial, immunomodulatory, and growth-promoting effects in aquaculture. Add more recent references (2021–2024), particularly on betel leaf extract, herbal immunostimulants, and antibiotic alternatives in aquaculture.	Noted
Is the language/English quality of the article suitable for scholarly communications?	1. Manuscript issue: Some titles have capitalized every word, which is incorrect. 2. Reference to Organization as author is incorrect (FAO, 2022) 3. journal formatting is inconsistent (some missing italics, incorrect issue number placements).	Noted
<u>Optional/General</u> comments	1. Minor Language Edits: Consider proofreading for clarity and conciseness to make the text more reader-friendly 2. Enhance Visual Representation: If possible, add a graph or figure summarizing key findings to improve engagement. there do not appear to be any explicit competing interest issues. No direct evidence of financial or professional conflicts is stated in the manuscript.	Noted

PART 2:

	Reviewer's comment	Author's comment <i>(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)</i>
Are there ethical issues in this manuscript?	<i>(If yes, Kindly please write down the ethical issues here in details)</i>	