

Review Form 3

Journal Name:	South Asian Journal of Research in Microbiology
Manuscript Number:	Ms_SAJRM_120349
Title of the Manuscript:	PROBIOTIC ASSESSMENT OF LACTIC ACID BACTERIA ISOLATED FROM PENTACLETHRA MA CROPHYLLA IN OKIGWE, IMO STATE.
Type of the Article	Research Article

General guideline for 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 guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

Compulsory REVISION comments	Reviewer's comment	Author's Feedback (Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
<p>Please write few sentences regarding the importance this manuscript for scientific community. Why do you like (or dislike) this manuscript? Minimum 3-4 sentences may be required for this part.</p>	<p><u>The following points have been deemed acceptable by the scientific community through review*****.</u></p> <p>The manuscript titled "Probiotic Assessment of Lactic Acid Bacteria Isolated from Pentaclethra macrophylla in Okigwe, Imo State" holds significant importance for the scientific community for several reasons:</p> <ol style="list-style-type: none"> 1. Potential Probiotic Strains: LAB are known for their beneficial effects on human health, such as improving digestion, enhancing immune function, and possibly even contributing to mental health. Identifying new LAB strains from Pentaclethra macrophylla opens avenues for developing novel probiotic products. 2. Local Relevance: Research conducted in Okigwe, Imo State, Nigeria, highlights region-specific microbial diversity and its potential applications. This can lead to region-specific probiotic formulations that cater to local dietary habits and health challenges. 3. Contribution to Bioprospecting: Bioprospecting for probiotics is crucial as it expands the repertoire of safe and effective microbial strains available for commercial and therapeutic use. The manuscript contributes by adding to the knowledge base of potentially beneficial microbial strains. 4. Scientific Understanding: Understanding the probiotic potential of LAB from Pentaclethra macrophylla enhances our knowledge of their ecology, physiology, and interactions with the host. This can pave the way for deeper scientific investigations into mechanisms of probiotic action. 5. Applications in Industry and Health: The findings can potentially be applied in various industries such as food and pharmaceuticals for developing new probiotic products. Moreover, healthcare professionals can use this information to recommend region-specific probiotics for improving public health. <p>In conclusion, this manuscript is important as it expands the scientific understanding of probiotics, explores novel LAB strains, contributes to regional biodiversity studies, and has practical applications in both industry and public health. It serves as a valuable addition to the scientific literature, benefiting researchers, industries, and health professionals alike.</p>	
<p>Is the title of the article suitable? (If not please suggest an alternative title)</p>	<p><u>Use the following alternative title.</u></p> <p>"Exploration of Lactic Acid Bacteria from Pentaclethra macrophylla in Okigwe, Imo State: Potential Probiotic Strains Assessment"</p>	

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<p>Is the abstract of the article comprehensive? Do you suggest addition (or deletion) of some points in this section? Please write your suggestions here.</p>	<p style="text-align: center;">Use the following abstract</p> <p>INTRODUCTION: Lactic acid bacteria, commonly found in fermented foods, are renowned for their potential health benefits, attracting significant attention for their possible contributions to human well-being. This study focuses on evaluating the probiotic potential of lactic acid bacteria isolated from <i>Pentaclethra macrophylla</i> in Okigwe, Imo State.</p> <p>METHODS: <i>Pentaclethra macrophylla</i>, a fermented food product known locally as Ugba, was sourced from vendors at Eke Okigwe Market, Okigwe, Imo State.</p> <p>RESULTS: Four distinct lactic acid bacterial isolates (UgA1, UgA2, UgB1, UgB2) were identified and characterized based on morphological and biochemical features, confirming their classification as lactic acid bacteria and <i>Lactobacillus</i> species. The isolates exhibited Gram-positive, non-motile, and catalase-negative characteristics consistent with established criteria. Regarding probiotic traits, cholesterol assimilation varied among the isolates, with B2 demonstrating the highest assimilation potential - 75% at 10% and an impressive 85% at 20%. Bile salt assimilation showed concentration-dependent responses, with B2 displaying superior tolerance - 51.6% growth at 20% bile concentration. Moreover, all isolates exhibited robust growth across acidic pH levels (3.0, 4.0, 5.0, and 7.0), underscoring their resilience to acidic environments.</p> <p>CONCLUSION: This study underscores the promising probiotic characteristics of the isolated lactic acid bacteria strains, positioning them as potential candidates for developing functional food supplements. Further investigation into their interactions with other microorganisms and intestinal epithelial cells promises valuable insights into their viability and effectiveness for practical applications in functional foods. This research contributes to ongoing exploration of indigenous probiotic strains, suggesting avenues for integration into the food and health sectors.</p>	
<p>Are subsections and structure of the manuscript appropriate?</p>	<p>OK</p>	
<p>Please write few sentences regarding the scientific correctness of this manuscript. Why do think that this manuscript is scientifically robust and technically sound? Minimum 3-4 sentences may be required for this part.</p>	<ol style="list-style-type: none"> 1. This manuscript on the probiotic assessment of lactic acid bacteria isolated from <i>Pentaclethra macrophylla</i> in Okigwe, Imo State, demonstrates scientific robustness through rigorous methodology and thorough characterization of bacterial isolates. 2. The study employs established microbiological techniques for isolation, morphological identification, and biochemical characterization of the lactic acid bacteria, ensuring accuracy and reliability of the findings. 3. Furthermore, the assessment of probiotic traits such as cholesterol and bile salt assimilation, alongside resilience to acidic conditions, reflects a comprehensive approach to evaluating their potential health benefits. 4. Overall, the manuscript adheres to scientific standards, providing valuable insights into indigenous probiotic strains with implications for both research and practical applications in food and health industries. 	
<p>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</p>	<p>Author requested to add research articles published in 2024 year related to this research in the introduction section and discussion part & also reference section.</p>	

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Minor REVISION comments		
Is language/English quality of the article suitable for scholarly communications?	Can be improved	
Optional/General comments	<p>The paper's importance is appreciated, but it requires major improvements to be accepted. Author, complete all changes mentioned in the review form for paper acceptance.</p> <p>It's unfortunate that the written part of the conclusion section is lacking. I kindly ask the author to incorporate the following points into the conclusion.</p> <p>In conclusion, the lactic acid bacteria isolated from <i>Pentaclethra macrophylla</i> in Okigwe, Imo State, exhibit promising probiotic potential. The isolates demonstrated typical characteristics of lactic acid bacteria, including Gram-positive staining, non-motility, and catalase negativity. They also displayed a range of beneficial traits such as positive results in sugar fermentation- fructose tests and varying degrees of cholesterol assimilation ability.</p> <p>These findings suggest that the lactic acid bacteria from <i>Pentaclethra macrophylla</i> could potentially be developed as probiotic candidates for human health applications. Further research is warranted to explore their full spectrum of probiotic properties, safety, and efficacy in order to harness their potential benefits for both human and animal health.</p>	

PART 2:

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

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