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| Book Name: | **Textbook of Microbial Diversity** |
| Manuscript Number: | **Ms\_BPR\_4223** |
| Title of the Manuscript: | **Textbook of Microbial Diversity** |
| Type of the Article | **COMPLETE BOOK** |

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| PART 1: 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)* |
| **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 serves as a comprehensive resource on microbial diversity, detailing the structure, classification and ecological roles of various microorganisms, including bacteria, archaea, fungi, viruses and algae. It highlights the critical role microbes play in ecological processes, human health and biotechnological applications, offering valuable insights into nutrient cycling, symbiosis and bioremediation. By integrating traditional taxonomy with molecular phylogenetics, the manuscript provides a robust framework for understanding microbial evolution and diversity, making it an essential reference for microbiologists, ecologists and researchers in related fields. Its emphasis on extremophiles and microbial adaptations further enhances its relevance in exploring life in extreme environments and potential applications in biotechnology and astrobiology. |  |
| **Is the title of the article suitable?**  **(If not please suggest an alternative title)** | The title, **"Textbook of Microbial Diversity"** is appropriate for the content as it aligns well with the manuscript's focus on the diversity, classification, ecological roles and applications of microorganisms. |  |
| 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. | The abstract of the article, while informative, could benefit from a more structured and concise presentation of its key points. Currently, it provides an overview of microbial diversity but could better highlight the specific contributions and significance of the manuscript. To make the abstract more comprehensive, consider explicitly mentioning the focus on traditional and molecular taxonomy, the ecological and biotechnological roles of microbes and the detailed exploration of extremophiles and their adaptations. Including the manuscript’s relevance to current scientific challenges, such as climate change, biotechnology innovations and understanding evolutionary processes, would enhance its appeal. If space allows, a brief mention of how this resource can aid researchers and students could further emphasize its practical value. Removing redundant details or overly broad statements would help maintain clarity and focus. |  |
| **Is the manuscript scientifically, correct? Please write here.** | The manuscript appears to be scientifically accurate, as it provides well-structured and detailed information about microbial diversity, including the classification, ecological roles and biotechnological applications of various microorganisms. The content aligns with current scientific understanding, especially in its integration of traditional taxonomy (e.g., Bergey’s Manual) and molecular phylogeny (e.g., 16S rRNA sequencing and genome analysis). It correctly highlights the ecological significance of microbes in nutrient cycling, symbiosis and bioremediation, as well as their roles in evolutionary studies and biotechnology.  A thorough review of the manuscript's scientific claims, especially those involving specific processes like bioremediation, extremophiles and microbial classification systems, should be performed to ensure all references and data are up-to-date. If experimental findings or numerical data are presented (as seen in the diversity table), it is essential to verify their sources and methodologies for accuracy and reliability. Overall, the manuscript demonstrates scientific rigor, but periodic updates and peer review would ensure its continued relevance and correctness. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.**  **-** | The manuscript does not explicitly mention references or cite sources for the scientific data and claims it presents, such as the numerical data on microbial diversity, evolutionary processes or biotechnological applications. While the content is comprehensive and appears aligned with current scientific understanding, the absence of cited references limits its credibility and utility for the scientific community.  **Suggestions for References:**   1. Bergey’s Manual of Systematic Bacteriology: Essential for taxonomy and classification details. 2. Woese et al., 1990: For the Three-Domain System and molecular phylogeny. 3. Recent reviews on microbial diversity (e.g., in Nature Reviews Microbiology or Trends in Microbiology) for up-to-date findings on extremophiles, bioremediation, and molecular methods. 4. Studies on biotechnological applications of microbes: For example, reviews on microbial roles in biofuels, enzyme production, and bioremediation in journals like Applied Microbiology and Biotechnology. 5. Articles on microbial contributions to global nutrient cycles: Sources from journals like The ISME Journal or Environmental Microbiology could enrich the discussion of ecological roles.   **Recommendations:**   * Include a list of cited references for key claims and numerical data. * Ensure references are recent (preferably from the past 5–10 years) to incorporate the latest scientific advancements. * Add references to foundational works, such as Carl Woese’s studies on molecular phylogeny and the latest editions of Bergey’s Manual. |  |
| Is the language/English quality of the article suitable for scholarly communications? | The language of the article is generally clear and appropriate for scholarly communication, effectively using technical terminology to convey scientific concepts. It could benefit from improvements in conciseness, consistency and grammatical precision to enhance readability and coherence. Simplifying overly complex sentences, maintaining a formal tone and ensuring consistent use of terminology would make the content more accessible to readers. Addressing minor grammatical issues and reducing redundancies would improve the overall quality. With careful editing to refine phrasing and streamline explanations, the manuscript can meet the high standards expected in scholarly communications, ensuring it is impactful and easy to comprehend for the scientific community. |  |
| Optional/General comments | The manuscript provides a comprehensive overview of microbial diversity, showcasing its importance in ecological processes, biotechnology and evolutionary studies. Its integration of traditional taxonomy and modern molecular techniques is commendable, as it reflects the advancements in microbial classification. The lack of explicit references and citation of recent studies is a notable limitation, as it affects the credibility of the presented information. Improving the flow of content, addressing grammatical inconsistencies and enhancing the scholarly tone would further elevate the manuscript’s quality. Including sections on emerging areas like microbial applications in climate change mitigation or microbiome research could broaden its relevance and appeal to a wider audience. Overall, the manuscript is a valuable resource with potential for significant impact if these refinements are addressed. |  |

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| **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?** | *(If yes, Kindly please write down the ethical issues here in details)* |  |

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| **Reviewer Details:** | |
| Name: | **Pooja S Beleri** |
| Department, University & Country | **University of Agricultural Sciences Bangalore, India** |