Review Form 3

Journal Name:	**International Journal of Plant & Soil Science**
Manuscript Number:	**Ms_IJPSS_125523**
Title of the Manuscript:	**Phytolith mediated biocarbon sequestration- a Review**
Type of the Article	**Review 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:

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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)*
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	The article "Phytolith Mediated Biocarbon Sequestration – A Review" makes a significant and timely contribution by reviewing the role of phytoliths in carbon sequestration, which is increasingly recognized as essential in efforts to combat climate change. Its discussion is particularly favorable, as it emphasizes the potential of phytoliths not only to occlude carbon but also to lock it in the soil for extended periods, thereby enhancing carbon storage and reducing CO_2 emissions. Given the urgency of finding effective methods for mitigating global warming, this article presents an important mechanism that could complement other climate solutions. But to what extent is this research relevant to other fields, such as archaeology?	
Is the title of the article suitable? **(If not please suggest an alternative title)**	It is well known that phytoliths play an established role in archaeological studies, especially in paleoenvironmental and paleoecological reconstructions. They provide valuable evidence about ancient vegetation and agricultural practices, helping us understand soil management and cultivation systems in past societies. The article highlights the durability of phytoliths and their ability to remain preserved in the soil for millennia, making them reliable markers for long-term studies. But how can this durability be used to better interpret human-environment interactions in the past?	
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.	Despite the article's considerable effort, the lack of a more in-depth archaeological discussion limits its ability to explore landscape transformations linked to plant and soil management by indigenous peoples, such as those in the Amazon. Could it be possible to connect phytolith-mediated carbon sequestration with sustainable practices used by these peoples, like the production of "terra preta" and other methods? What kind of archaeological evidence could strengthen these arguments about the deliberate creation of landscapes and soils by ancient populations?	
Are subsections and structure of the manuscript appropriate?	Moreover, the article raises important points about how carbon sequestration is influenced by various factors, including plant characteristics, phytolith traits, and the environmental conditions in which they are deposited. However, it would be interesting to more deeply contrast these natural aspects with the cultural practices of different societies. How did the diverse uses and management of vegetation by ancient peoples affect the role of phytoliths in carbon sequestration? Could this help us better understand the relationship between culture and nature in the past? Finally, including a more detailed archaeological analysis could open new perspectives on sustainable soil management, both in the past and present. The article could benefit from incorporating these discussions into its scope, allowing for greater integration between environmental sciences and archaeology.	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.		
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. **-**		
Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**		
Optional/General comments		

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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)*	

Reviewer Details:

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