

**Review Form 1.8**

Journal Name:	<b>Asian Plant Research Journal</b>
Manuscript Number:	<b>Ms_APRJ_120118</b>
Title of the Manuscript:	<b>Biochemical Investigation, Antimicrobial Properties and Metallic Nanoparticles Study of Tridax procumbens Leaf Extracts</b>
Type of the Article	<b>Research Article</b>

## Review Form 1.8

### 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)
Is the manuscript important for scientific community? (Please write few sentences regarding this manuscript to justify your answer)	Yes, the scientific community will find value in the work. Because of their potential significance for further study and applications, the findings provided in this publication may have the potential to have a significant influence on the scientific community.	
Is the title of the article suitable? (If not please suggest an alternative title)	The paper include synthesis of Nanoparticles also. So the title must include synthesis word. The suggested title <b>"Biochemical Characterization, Antimicrobial Potency, and Metallic Nanoparticle Generation from Tridax procumbens Extracts"</b> Or <b>"From Biochemistry to Nanotechnology: Tridax procumbens Leaf Extracts for Antimicrobial Activity and Metallic Nanoparticle Synthesis"</b>	
Is the abstract of the article comprehensive?	Yes, the abstract of this article provides a comprehensive overview of the key findings, methodology, and significance of our research. But from the abstract the title like Aims and objective, Methodology, Result, Conclusion should be removed.	
Are subsections and structure of the manuscript appropriate?	Yes, the article is well structured.	
Do you think the manuscript is scientifically correct? (Please write few sentences regarding this manuscript to justify your answer)	Yes, the experimental procedures are clearly described except green synthesis method, presented results seem accurate. <b>Additional comments –</b> <b>1. In the introduction part –</b> i. Consider breaking down the paragraph into smaller sections to improve readability and emphasize key points. ii. Some sentences could be clarified for better understanding. For instance, "The versatility of the species is most likely due to the plant's defense mechanisms, secondary metabolites such as flavonoids, alkaloids, tannins, carotenoids, and saponins" could be rephrased for smoother readability. <b>2. In the Materials and Method section –</b> i. Clarify the duration of air-drying the leaves. "Some days" is vague; specifying the number of days (e.g., 7 days) would provide clarity. ii. Specify the mesh size of the powder after grinding the leaves. This detail can affect the extraction efficiency and reproducibility of your results. iii. Was there a specific purpose for using these two solvents (distilled water and ethanol)? iv. In the test of flavonoid mention, the concentrations of reagents (ammonia and sulfuric acid). v. In the Determination of DPPH free radical scavenging ability – <b>Complete the sentence</b> – "The 1,1- diphenyl-2-picrylhydrazyl (DPPH) free radical scavenging ability of the extract was determined using the modified method of ....???" vi. Mention the name of method by which absorbance has been determined. vii. Formula for % DPPH radical scavenging ability should be correctly written. viii. In the Determination of Nitric oxide (NO) radical scavenging ability write the	

**Review Form 1.8**

	<p>name of modified method.</p> <p>ix. Mention the name of method by which absorbance has been determined.</p> <p><b>3. Check the amount of zinc sulphate used for preparation of 0.1M solution.</b></p> <p><b>4. After preparation of metal ion solution, method for synthesis of metal nanoparticles from plant extract must be mentioned.</b></p> <p><b>5. Please mention how figure 1 to 6 plotted? in experimental part it is not mentioned.</b></p> <p><b>6 After figure 6 there are four more figure which are not annotated. Please draw and label them properly.</b></p> <p><b>7. In the discussion part.</b></p> <p>i. Please mention the possible reason of the variation of phytochemical presence in aqueous and alcoholic extracts.</p> <p>ii. Mention proper reference where it is written that phytochemicals can inhibit cancer cell growth.</p> <p>iii. Please mention how the antioxidant power of the samples was determined for comparison with the standard.</p> <p>iv. It is suggested to mention possible reasons why synthesized ZnNP, AgNP, and CuNP show more obvious impacts on gram-positive pathogens compared to gram-negative ones.</p> <p>v. Explanation of figure 7 and 8 is not proper.</p> <p>vi. The FTIR spectra is missing in the manuscript.</p> <p>vii. The UV-Vis. spectra for all the three metal nanoparticles is missing.</p> <p>viii. The peaks mentioned in the discussion part for Cu and Zn NPs are not matching with figure.</p> <p>ix. For AgNPs the SPR band must be mentioned.</p> <p>x. Justify how FTIR supports the stability of the biosynthesized nanoparticles</p> <p>xi. Justify "We believe that the AgNPs, CuNPs, and ZnNPs nanoparticles have great potential for applications in catalysis, biomedical, and pharmaceutical industries"</p> <p>xii. Mention the size of the synthesized nanoparticles, and the technique by which size of NPs determined must be included in the manuscript</p> <p><b>8. In the conclusion part – It must be specifically focused on summarized outputs of findings of the presented research work in the manuscript.</b></p> <p>9. Depiction of chemical formula, English and grammar of this manuscript need improvement.</p> <p>10. The importance of green synthesis should also be included in the manuscript.</p> <p>11. An explanation of why this plant has been chosen for the synthesis of Metal Nps should be given.</p>	
<p><b>Are the references sufficient and recent? If you have suggestion of additional references, please mention in the review form.</b></p>	<p>Some recent references may also be included. Such as –</p> <p>1. Nazia Tabassum, Fazlurrahman Khan, Geum-Jae Jeong, Du-Min Jo, Young-Mog Kim, "Silver nanoparticles synthesized from Pseudomonas aeruginosa pyoverdine: Antibiofilm and antivirulence agents", Biofilm, 2024</p> <p>2. R Khandelwal, C Kachhawa, SK Arora, JK Ratan " A Sustainable method for synthesis</p>	

## Review Form 1.8

	of silver nanoparticles by using Glycyrrhiza glabra extract " Nanotechnology for Environmental Engineering, 2021 3. "R Khandelwal, SK Arora, DM Phase, A Pareek " Anti cancer potential of green synthesized silver nanoparticles "AIP conference proceedings, 2020	
<b>Minor</b> REVISION comments  <b>Is language/English quality of the article suitable for scholarly communications?</b>	No, the English and grammar of this manuscript need improvement.	
<b>Optional/General</b> comments	The manuscript may be accepted only after the above modifications.	

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

### Reviewer Details:

Name:	<b>Rakhi Khandelwal</b>
Department, University & Country	<b>Government Mahila Engineering College, India</b>