

Review Form 3

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| Journal Name: | Advances in Research |
| Manuscript Number: | Ms_AIR_122760 |
| Title of the Manuscript: | Chemical and Biological Evaluation of Ethanol Extract from Plectranthus barbatus Andrews Leaves (Lamiaceae) |
| Type of the 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 <i>(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her</i> |
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| <p>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.</p> | <p>This manuscript makes an important contribution to the scientific community by exploring the potential of <i>Plectranthus barbatus</i>, a medicinal plant with a long history of traditional use, as a source of bioactive compounds with various pharmacological and insecticidal properties. The comprehensive phytochemical characterization of the ethanol extract of <i>P. barbatus</i> leaves (PbLE) provides valuable insights into the diverse secondary metabolites present, including cinnamic derivatives, flavonoids, terpenes, and steroids. The quantification of total phenols and flavonoids highlights the rich polyphenolic content of the extract, which is often associated with potent antioxidant and other beneficial biological activities. The assessment of the antioxidant potential of PbLE using multiple complementary assays, such as ABTS, DPPH, and phosphomolybdenum reduction, demonstrates the extract's ability to scavenge free radicals and exhibit reducing power. This is particularly significant, as antioxidant compounds can play crucial roles in mitigating oxidative stress and associated health complications. Furthermore, the study's exploration of the anti-virulence properties of PbLE against <i>Staphylococcus aureus</i>-induced hemolysis of human erythrocytes is a unique and valuable aspect of the research. This finding suggests that the extract may possess the ability to modulate bacterial pathogenicity, which could have important implications for the development of alternative strategies to combat antibiotic-resistant infections. The manuscript also provides evidence for the larvicidal activity of PbLE against the mosquito vector <i>Aedes aegypti</i>, which is of great significance in the context of arboviral disease control. This finding, coupled with the extract's lack of antimicrobial activity, indicates that the observed bioactivities may be mediated through</p> | |
| <p>Is the title of the article suitable? (If not please suggest an alternative title)</p> | <p>The title of the article, "Chemical and Biological Evaluation of Ethanol Extract from <i>Plectranthus barbatus</i> Andrews Leaves (Lamiaceae)", is generally suitable and accurately reflects the content and focus of the study presented in the manuscript</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> | <p>The abstract provided in the manuscript is generally comprehensive and covers the key aspects of the study, including the objectives, methodologies, and the main findings. However, there are a few suggestions that could potentially enhance the abstract:</p> <ol style="list-style-type: none"> 1. Provide more quantitative data for the larvicidal activity: <ul style="list-style-type: none"> - The abstract states that PbLE caused 40% mortality of <i>Aedes aegypti</i> larvae at 7 mg/mL, but including the LC50 value (if determined) could further strengthen this finding. 2. Consider including a brief conclusion or significance statement: | |
| <p>Are subsections and structure of the manuscript appropriate?</p> | <p>The overall structure and subsections of the manuscript are appropriate and well-organized, allowing for a clear and logical presentation of the research.</p> | |
| <p>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.</p> | <p>The manuscript demonstrates a high level of scientific rigor and technical soundness. The authors have utilized a combination of well-designed qualitative and quantitative techniques to thoroughly characterize the phytochemical composition of the <i>Plectranthus barbatus</i> leaf extract, ensuring the reliability and reproducibility of the obtained results. The comprehensive assessment of the extract's</p> | |
| <p>Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.</p> | <ul style="list-style-type: none"> - The references provided in the manuscript are generally sufficient, supporting the information presented in the study. The authors have cited a good mix of primary research articles, review papers, and relevant fact sheets from reputable sources such as the World Health Organization. - However, a few additional references that could potentially strengthen the manuscript | |

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| | <p>Sep 27;9(10):2041. doi: 10.3390/microorganisms9102041. PMID: 34683362; PMCID: PMC8541629.</p> <p>- Kulbat-Warycha K, Oracz J, Żyżelewicz D. Bioactive Properties of Extracts from <i>Plectranthus barbatus</i> (<i>Coleus forskohlii</i>) Roots Received Using Various Extraction Methods. <i>Molecules</i>. 2022 Dec 16;27(24):8986. doi: 10.3390/molecules27248986. PMID: 36558119; PMCID: PMC9781142.</p> <p>- Obiero DK, Ombui JN, Mbaria JM, Yenesew A, Onyuka AS, Kilee TN. Evaluation of chemical compounds in <i>Plectranthus barbatus</i> leaves extract for application in reduction of tannery wastewater toxicity. <i>J Phytopharmacol</i> 2023; 12(1):32-38. doi: 10.31254/phyto.2023.12105</p> <p>M. F. Cordeiro, T. P. S. Nunes, F. G. Bezerra, P. K. M. Damasco, W. A. V. Silva, M. P. A.</p> | |
| <p>Minor REVISION comments</p> <p>Is the language/English quality of the article suitable for scholarly communications?</p> | <p>The language and English quality of the article are generally suitable for scholarly communications. The manuscript is well-written, with a clear and concise presentation of the research. There are a few minor observations, such as instances where the phrasing or word choice could be slightly improved, and the use of technical terminology and scientific jargon is appropriate and consistent with the target audience. The manuscript adheres to the conventions of scientific writing, with clear and logical flow of ideas, appropriate use of headings and subheadings, and effective integration of tables and figures. With a few minor refinements, the manuscript would be well-positioned for publication in a reputable peer-reviewed journal.</p> | |
| <p>Optional/General comments</p> | <p>This is a well-executed study that contributes valuable insights into the pharmacological potential of <i>Plectranthus barbatus</i>, a medicinal plant with promising applications in the fields of antimicrobial and insecticidal development.</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? | (If yes, Kindly please write down the ethical issues here in details) | |

Reviewer Details:

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| Name: | Adel Ahmed Mohammed Saeed |
| Department, University & Country | University of Aden, Yemen |