

Review Form 3

Journal Name:	Journal of Advances in Biology & Biotechnology
Manuscript Number:	Ms_JABB_129176
Title of the Manuscript:	In Vitro Anthelmintic Activity of Mahaneem (<i>Melia azedarach</i>) and Chirata (<i>Swertia chirata</i>) extracts against eggs and adult stage of <i>Haemonchus contortus</i>
Type of the Article	Original Research Article

PART 1: 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 feedback here)</i>
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 investigates the anthelmintic properties of <i>Melia azedarach</i> and <i>Swertia chirata</i> against <i>Haemonchus contortus</i> , a major parasite in sheep. The study highlights the potential of these plants as natural alternatives to synthetic anthelmintics, addressing concerns about drug resistance and residues in animal products. These preliminary results provide a foundation for further exploration of sustainable approaches to parasitic control in livestock.	
Is the title of the article suitable? (If not please suggest an alternative title)	The current title appears appropriate as it accurately reflects the main subject of the article. However, if improvement is necessary, a more precise version could be: "Evaluation of the anthelmintic activity of aqueous extracts of <i>Melia azedarach</i> and <i>Swertia chirata</i> against <i>Haemonchus contortus</i> : In vitro study" This version highlights the type of extracts used, while specifying the in vitro anthelmintic activity and the targeted parasite.	
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 concisely presents the objectives, methodology, and results of the in vitro anthelmintic activity study of aqueous extracts of <i>Melia azedarach</i> (Mahaneem) and <i>Swertia chirata</i> (Chirata) against <i>Haemonchus contortus</i> .	
Is the manuscript scientifically, correct? Please write here.	The manuscript appears scientifically sound. The study follows a clear experimental design, utilizing well-established methods such as the egg hatch assay (EHA) and adult motility inhibition test (AMIT) to assess the anthelmintic activity of plant extracts. The results are presented with appropriate statistical analysis, demonstrating the comparative efficacy of the two plant extracts (<i>Melia azedarach</i> and <i>Swertia chirata</i>) against <i>Haemonchus contortus</i> . The methodology and results are logically presented, and the study provides relevant data for the field of veterinary parasitology.	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.	The references provided in the manuscript appear to be sufficient and relevant for the study. However, to ensure the manuscript reflects the latest advancements in the field, it would be beneficial to include recent studies on the anthelmintic activity of plant extracts, particularly those focusing on <i>Haemonchus contortus</i> and other ruminant parasites.	

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<p>Is the language/English quality of the article suitable for scholarly communications?</p>	<p>The language quality and English of the article are generally suitable for scholarly communication. The text is clear, and the terminology used is appropriate for a scientific audience. However, some minor grammatical adjustments and improvements in sentence structure could enhance the manuscript's fluency and readability.</p>	
<p>Optional/General comments</p>	<p>The title simply states "extracts," without specifying that these are aqueous extracts obtained by decoction, which is important information to define the methodological framework. Adding this clarification would make the title more informative for readers interested in the type of extracts used.</p> <p>Suggested rewording with this clarification: "In Vitro Anthelmintic Activity of Aqueous Extracts of Melia azedarach and Swertia chirata Against Haemonchus contortus Eggs and Adults."</p> <p>Comments on the introduction:</p> <ol style="list-style-type: none"> 1. Reduction of repetitions: The terms "herbal anthelmintics" and "plants containing bioactive compounds" are repeated unnecessarily. It would be better to condense them for improved fluency. 2. Context of citations: The citation about "80% of the world population uses medicinal plants" should be more clearly linked to the topic of the study, explaining its relevance to parasitic control. 3. Updating references: Some references could be updated to reflect recent research on natural alternatives for controlling Haemonchus contortus. 4. Fluency of the introduction: Some sentences could be reformulated to improve clarity and coherence. 5. State of the art: The introduction could include a more detailed state of the art on natural alternatives, particularly plants used against Haemonchus contortus. <p>Plant Materials Collection</p> <p>Details on Plant Identification: Although the plants were identified based on the literature, it would be important to mention whether an official botanical confirmation was conducted by a botany specialist, even though the plants are common and widely known. Additionally, it would be useful to specify if a specimen or voucher was preserved for future reference, to ensure traceability of the samples used in the study. This would strengthen the scientific rigor and validity of the plant identification.</p> <p>Details on extraction : You chose the decoction method to prepare the aqueous extracts, but this technique can denature certain bioactive compounds due to prolonged boiling. Did you consider this drawback, and how might it affect the effectiveness of the extracts? Wouldn't it have been better to use a gentler method, such as maceration or cold infusion, to preserve the sensitive compounds? Also, is the choice of decoction based on specific reasons related to the plants studied, or is it a general screening method? If it's a targeted choice, could you explain why it was preferred?</p> <p>bioactive compounds</p> <ol style="list-style-type: none"> 1. Have you conducted a characterization of the bioactive compounds present in the two plant extracts? Identifying and quantifying the specific compounds responsible for the anthelmintic activity could significantly strengthen your findings. If not, do you plan to perform such an analysis in future studies to better understand the mechanisms of action and potential synergies of these bioactive compounds? <p>According to the literature, are there any known bioactive compounds in the two studied plants (Melia azedarach and Swertia chirata) that possess anthelmintic properties? If so, which compounds have been identified and described? Additionally, could you elaborate on their mode of action against</p>	

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	<p>Haemonchus contortus? This information could provide valuable context for interpreting your results and understanding how these compounds contribute to the observed effects.</p> <p>Choice of DMSO as a solvent: You used DMSO (dimethyl sulfoxide) as a solvent for preparing the extracts at different concentrations. Could you explain why this solvent was chosen? Was it due to its specific properties, such as its ability to dissolve a wide range of bioactive compounds, or because of its minimal impact on biological test results? Additionally, how did you ensure that DMSO itself did not have any inhibitory or stimulatory effects on worm motility or egg hatching processes? Clarifying this would help better understand the rationale behind this choice and ensure the reliability of the results obtained.</p> <p>Ethnobotanical and Ethnoveterinary Use of the Two Plants: Are the two plants studied, Melia azedarach and Swertia chirata, commonly used in ethnobotany, particularly in traditional or local practices? Specifically, are they employed in ethnoveterinary medicine? If so, could you provide details on which diseases or conditions these plants are traditionally used to treat in local veterinary systems? This information would help establish a clearer connection between traditional use and the scientific goal of your study, while highlighting the importance of their selection.</p> <p>CONCLUSION: The concentrations that revealed anthelmintic activity are relatively high (50 mg/mL and 25 mg/mL). Based on these in vitro results, do you believe an in vivo experiment could be justified? What additional adaptations or considerations would be necessary to test the effectiveness of the extracts at more realistic concentrations in an in vivo setting?</p> <p>Based on the information provided in the manuscript, no major ethical issues appear to arise. No significant ethical concerns should be present. Based on the information provided in the manuscript, there do not appear to be any competing interests. The authors have not disclosed any financial, personal, or professional conflicts that could influence the study's design, results, or interpretation. No evidence of plagiarism is present in the manuscript. However, if plagiarism is suspected, it is recommended to use plagiarism detection tools to check for similarities with other published works and adjust citations accordingly.</p>	
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PART 2:

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

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