**Reviewer's report**

**Title:** Antibacterial activities, proposed mode of action and cytotoxicity of leaf extracts from Triumfetta welwitschii against Pseudomonas aeruginosa

**Version:** 0  **Date:** 26 Jun 2019

**Reviewer:** Carlos Henrique Martins

**Reviewer's report:**

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The manuscript describes the antibacterial activity, the possible mechanism of action and the cytotoxic evaluation of the vegetal species of Triumfetta welwitschii.

The article needs a revision in English language and also it needs to be clarified and corrected in some points so it can be published in BCAM. The experiments were made with only crude extracts of the studied vegetal species and the majority of the assays were made with one standard strain (P. aeruginosa) of bacteria, which was taken into account since it presented the best results for the antibacterial activity. The manuscript does not make clear which are the main chemical classes of secondaries metabolites, and what so more the antibacterial action had been already studied in this vegetal species, thus, presenting in this study other assays even though it was made in only one bacteria.

Other points of fragility in the study

**Background**

The reading of this item is tiring and does not present the state of the researches made with the T. welwitschii, yet, more than half of this item was used with the intention of justifying the use of certain techniques in the study containing unnecessary information for a specialized reading public. It is necessary to clarify which are the secondaries metabolites found in T. welwitschii what would collaborate with the discussion of the results presented.

Other important question is that the reason of choice of the bacterial species evaluated since the authors inform that the T. welwitschii is traditionally used to treat diarrhea. Would it not be better to choose bacteria that cause diarrhea?

**Methods**
Preparation of extracts

- In this item the authors should present a reference to the extract's preparation. What was the yield of each extract evaluated?

Microbial strains and culture media

- What is the origin of the clinical isolated? Were they isolated from what type of infection and what is the anatomic localization?

Page 6, Line 5: correct Klebsiella pneumoniae

Determination of antibacterial activities of leaf extracts isolated from Triumfetta welwitschii

The assay needs a literature reference. Were all bacteria evaluated with the same culture medium (TBS)? How the results of this technique are interpreted and presented?

To the assays "Determination of the possible mode of action of antibacterial" and "Evaluation of the toxicity of the leaf extracts". Authors should inform what criteria were used to choose the evaluated bacteria in these tests.

Page 7, line 24: Confirm the use of the reference 15 in this technique.

Results

Page 11, lines 15 to 52: Some results are presented in inhibition percentual of the growth and some others in MICs (line 44). The presentation of the results should be standardized. What represents higher or lower growth inhibition and what reference was used in this comparison?
Page 12, lines 48 to 58: What was the base used by the authors to describe higher homolytic effect?

Discussion

In general, the discussion is based only in studies of others vegetal species, which is in majority references to isolated compounds and there is not technical information of the technique used in this discussion. The discussion does not make the results interesting.

Once more, authors claim that T. welwitschii is a traditional plant used to treat diarrhea symptoms, but the study is presented with bacteria that provoke other diseases. It is necessary to justify the choice of tested bacteria in the antibacterial activity test. Authors have lost the opportunity to corelate the results of the standard strains with the clinical isolated.
The discussion should also be done considering the structural differences between Gram-negative and Gram-positive that were evaluated.

What are the possible secondaries metabolites of T. welwitschii that could justify these results?

**Conclusion**

Concerning the antibacterial activity in the conclusion, it was conducted by the results found to one bacteria (P. aeruginosa), not being permitted the extrapolation of these results.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

No

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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