Reviewer's report

Title: Zootherapy associated with antibiotic therapy: Enhancement of aminoglycosides antibiotic activity by natural products of Nasutitermes corniger (Motschulsky 1855)

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Reviewer: Zakaria Mbwambo

Abstract. If the topic is on the effect of a natural product on antibiotics, how does chlorpromazine get in, Does the authors know that CPZ is a neuroleptic (Antipsychotic)?

They should give an explanation on why involving chlorpromazine in their study. If their interest is to provide information on the effect of decocts of a termite, then they should concentrate on termites.

As such there is no connection between methodology and conclusions in the abstract.

Background: The synonyms of N. corniger should just be indicated in a sentence and therefore ref. 9 may be deleted.

Page 4. The study should be limited to evaluation of decocts of N. corniger alone and not with chlorpromazine

Methods: Two strains of E. coli were used. What is the reason for that?

Identification of plant species in which termites grows is mixed with preparation of Decocts??? This is serious! The authors should separate identification issues from the section on Preparation of decocts! Identification of the organisms, namely, the termite and the two plant species (NOT just two plants) from which the termites were collected could be fused together in a separate paragraph.

Results: Pg 5. Decocts didn’t show antibacterial activity at 1024 µl/ml …….but when incorporated with the growth medium at 256 µl/ml, a reduction of the MIC for gentamycin and neomycin was observed in the strain E. coli 27 (but not with the ATCC8539), demonstrating an synergistic effect of this natural product with these aminoglycosides (Table 1). Authors could not reveal what is contained in the growth medium?. Something in the medium triggered the decocts to effect gentamycin and neomycin otherwise reduction of the MIC for these antibiotics (gentamycin and neomycin) wouldn’t have happened.

In the same paragraph, it is written that “Decocts of Termites from A. occidentale L. showed synergism only against neomycin (Table 2), demonstrating the influence of the plant substrate in the pharmacological properties of this natural products of termites”. This is a confusing statement. Are we experimenting on decocts from termites of extracts from a plant species? As pointed earlier, the
authors should stick to one scientific hypothesis and try to defend it through well planned experiments and not just putting or mixing events and hence loosing scientific merit of the study.

After identification of a plant species with its authority, then in the succeeding para one does not have to again and again indicate authority e.g., A. occidentale L. (so this L. here should be deleted)

Para 3 page 6 on Synergism with CPZ is also superfluous and there is no need to suggest resistance mechanism for CPZ which is not a natural product.

Discussion: Here I expected to see correlation of the study findings with the available literature. Again the authors provide literature search on peptides with antimicrobial activity and many other stories. This part requires revision.

Literature:
It has been difficult for me to do a complete search for all the quoted literature cited due to limitations for our web site down here. However, for consistence purposes, references should be inserted at the end of sentences.

Language is also poor, so authors should give an opportunity for someone who is eloquent in this language to read the manuscript several times in order to ensure no mistakes are allowed

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**
'I declare that I have no competing interests'