Author's response to reviews

Title: Antifungal and antibacterial activity and chemical composition of polar and non-polar extracts of Athrixia phylicoides determined using bioautography and HPLC

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Author's response to reviews: see over
22 November 2013

The Editor
BMC Complementary and Alternative Medicine

Dear Editor

Re: Submission of revised manuscript (MS: 1093847881882996) for consideration for publication in BMC Complementary and Alternative Medicine

Herewith, I would like to submit the revised manuscript entitled “Antifungal and antibacterial activity and chemical composition of polar and non-polar extracts of Athrixia phylicoides determined using bioautography and HPLC” for consideration for publication in BMC Complementary and Alternative Medicine.

The reviewer is gratefully thanked for her useful suggestions which have improved the paper. We understand that the reviewer feels it unnecessary to review the paper again and trusts that the straightforward corrections recommended have been carried out to the satisfaction of the editor. To facilitate this decision we have made detailed responses to the reviewer’s comments, and all the suggested corrections have been made in the manuscript.

Thank you for considering this submission for publication.

Yours sincerely

(Dr) Lyndy McGaw
Senior Lecturer and Deputy Leader, Phytomedicine Programme
Antifungal and antibacterial activity and chemical composition of polar and non-polar extracts of *Athrixia phylicoides* determined using bioautography and HPLC

Response to reviewer comments *(author response typed in blue font)*

1. Q – why in the text you say Screening method 03 is better than 02 and then the figures are of SM02
   It is explained in the Results section that the better separation of compounds was obtained using screening method 02. Screening method 03 improved the peak shape and resolution to some extent but co-elution was not completely removed so the original figures showing good separation of compounds were included in the manuscript.

2. ..... indicated nine antibacterial and two antifungal compounds...... *(Isn't this what Table 4 says? Or is it five antibacterial?)*
   This has been changed to five antibacterial compounds as some compounds eluting at a similar Rf value may be the same compound, as indicated in the legend of Table 4.

3. This is the first mention, give the scientific names ..... South African rooibos (?) and honeybush (?) teas
   The scientific names have been inserted.

4. .....to fully characterize the (insert “the”) active components of the extracts.
   This has been changed.

5. If the literature states from which plant part the phytochemicals were extracted, state it. Most are stated but a few just say 'extract'. Be explicit.
   Where this information is available it has been included.

6. .....thus helping to explain the (insert “the”) variable findings between researchers.
   This has been changed.

7. Change sentence to “.....and to determine which phytochemicals could be extracted with different solvents using HPLC.”
   This has been changed.

8. Suggest 'Screening method 03' to prevent any confusion
   This has been changed.

9. .....a set of three TLC plates was prepared as for the (insert “the”) TLC...
This has been changed.
10. Change sentence to “The TLC plates sprayed with bacteria or fungal suspensions were incubated overnight at 37°C or 35°C respectively.”

This has been changed.
11. Change sentence to “.....incubated at 37°C or 35°C respectively for approximately four hours until appearance of a red colour showed growth.....”

This has been changed.
12. Change sentence to “Screening method 02”

This has been changed.
13. Change sentence to “although co-elution was not completely removed, “Screening method 03” (Table 2).

This has been changed.
14. “extracts 1 - 4 that were active against the Gram-positive bacteria were inhibitory against the Gram-negative E. coli.” Make this sentence clearer.

This has been changed by replacing “inhibitory” with “also active”.

15. Change sentences in Discussion to “The traditional ways of preparing......”, “..or soaking plant material in freshly boiled water....”, “In addition, for some plants”, “....prior to producing....”

These have been changed.
16. Pg 16. Find an appropriate place to split this paragraph. It is too long.

The paragraph has been divided into two.
17. Change sentence to “...that could be investigated in the future...”

This has been changed.
18. Change sentence to “… active compounds (Table 4) are not the same as those identified (Table 3)...”

This has been changed.
19. Not sure if I agree, especially since there was no statistics presented in that paper. And the chemical work was preliminary. Go back to the raw data and see if there is any statistical differences TEAC Infusion (0.248), Decoction (0.269), Water (0.278). These might be statistically similar and this would be good to state. However the phenol levels: Inf (43.64), Dec (45.18), room-temp water (56.59) may be statistically different. It may be too late for this paper, but you could take these different types of water extracts – infusion, decoction, luke-warm water, ice-cold water
and do your HPLC, TLC, bioautography and see what phytochemicals are being extracted. For now, it is future work.

Regarding the degree of similarity between the variously prepared aqueous extracts in the previously published cited paper, without the raw data used to calculate the means, we were not able to statistically analyse the exact degree of similarity between the three extracts. The cytotoxicity and antioxidant activity of the different extracts were within similar ranges. It is agreed with the reviewer that the three types of extracts could be further studied in future work and this has been referred to in the manuscript.

20. Is it 'plant extract fractions' or 'plant extracts'
This has been corrected to “plant extracts”.

21. Change title to “Table 2. Gradient conditions of screening method 03 on the Waters 2695”
This has been changed.

Editorial comments:
- Please remove your figure legends from your uploaded figures, but leave those that appear in your manuscript document.
This has been done.