Reviewer’s report

Title: Discovery, synthesis and antibacterial evaluation of phenolic compounds from Cyclicodiscus gabunensis Harms

Version: 0 Date: 15 May 2019

Reviewer: Jean-de-Dieu TAMOKOU

Reviewer's report:

The manuscript provides some scientific information to audience. The research experiments are well planned. The manuscript is well organized and has clear presentation. The suggestions and comments to getting improve the manuscript are mentioned below.

1) Please correct the typological errors throughout the manuscript. e.g.

"Its extracts have been used for the treatment of various ailments including malaria liver diseases, and gastrointestinal disturbances [6, 7].", "In continuation of our search for antibacterial agents form natural resources [15-17], here we report a bioassay-guided fractionation, isolation, identification, synthesis and evaluation of antibacterial activity of compounds within a CG bark extract."

2) The family name of the plant species should be included in the abstract and keywords.

3) In the Background section, the authors emphasize about the importance of finding therapeutic alternatives to deal with MDR infections, but they do not include any MDR strain in their study, so the Background should be revised or a MDR strain included.

4) The traditional uses of the studied plant against the selected bacteria should be provided in the Background. The authors should provide more traditional uses of C. gabunensis.

5) Please delete the following sentence at the end of the Background section: "Our studies indicate that gallic acid, ethyl gallate and polyphenols may provide the most potent antibacterial constituents in C. gabunensis bark extracts."

6) As I understand only the stem bark was collected in September 2012 from the woods of Imo state, Nigeria, so how the identification of plant species was possible?

7) Please justify the choice of the extraction solvents (hexane and 70% ethanol) and indicate the extraction yields in the manuscript.

8) CGE was further partitioned in water with ethyl acetate and n-butanol sequentially to give the ethyl acetate fraction (CGEEA), butanol fraction (CGEBU) and aqueous fraction (CGEAQ). Any reference?
9) Please indicate the temperature of evaporation using a rotary evaporator under vacuum.

10) "20 µL of each preparation were distributed evenly on Whatman sterile filter paper disks (6 mm, Fischer Scientific, UK)." Please indicate the tested disk load or the amount of extract per disk.

11) Indicate how the bacterial density was adjusted at 1×10^6 CFU/mL to allow reproductivity of the work.

12) Scanning electron microscopy: Justify the choice of S. aureus in Scanning electron microscopy study. Were the proper positive controls performed?

13) The results explicitly show the findings. However, it can be improved if the authors do the suggestions: Please remove references in the result section. The following sentences should be moved to the discussion section: "CGEEA was the most potent among the CGE subfractions, in agreement with the previous report [7] with the exception of P. aeruginosa shown as inactive here.", "This could be attributed to the nature of the gram-negative E. coli cell wall composed of an outer membrane containing lipopolysaccharides, a periplasmic space with a peptidoglycan layer which may prevent penetration of the highly non-polar lauryl gallate [3]."

14) The discussion section is well linking the reported results with the outcomes of the manuscript. This part is acceptable if some minor corrections will be done. Please do not cite figures or tables in the discussion section.

15) The reference style is not according to the author's guidelines.

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

Yes

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

No

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

Yes
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:

Acceptable

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