Review Form 3

Journal Name:	**European Journal of Medicinal Plants**
Manuscript Number:	**Ms_EJMP_121301**
Title of the Manuscript:	**Screening of anti-breast cancer and anti-oxidant properties of selected medicinal plants grown in Sri Lanka**
Type of the Article	**Original Research Article**

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PART 1: Review Comments

Compulsory REVISION comments	**Reviewer's comment**	**Author's Feedback** *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Please write a few sentences regarding the importance of this manuscript for the scientific community. Why do you like (or dislike) this manuscript? A minimum of 3-4 sentences may be required for this part.	**In the light of complications associated with conventional cancer treatment options and search for more effective and safer therapeutic methods, plant extracts and plant-derived natural products are demonstrating effectiveness as an alternative option. This study investigating and revealing potential anti-tumoral capacity of a panel of such plant extracts further strengthening available lines of evidence of pharmacological roles of plant-based material against neoplastic conditions such as mammary tumour. Thus, the preliminary data reported in this manuscript is important to the field of therapeutic cancer research as search for newer anti-breast cancer agents continues.** **Also, it is understood from this study that the investigated plant extracts possess such a class of bioactive agents such phenolics and flavonoids. These identified phytochemicals may play a role in the anti-breast cancer and antioxidant capabilities observed in the extracts.**	
Is the title of the article suitable? **(If not please suggest an alternative title)**	**The title is sufficient and aptly describes what the study is about.**	
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.	**Yes, the abstract is detailed enough to succinetly capture the essential points.**	
Are subsections and structure of the manuscript appropriate?	**Yes, the manuscript has the appropriate sub-sections and structure necessary to understand the relevance, methodology, and findings of the study.**	
Please write a few sentences regarding the scientific correctness of this manuscript. Why do you think that this manuscript is scientifically robust and technically sound? A minimum of 3-4 sentences may be required for this part.	**The rational and the scientific methods used in the study, as well as the findings of the study constitute the scientific correction of the study and thus of the manuscript. While the study (and thus the manuscript) employed simple, less complicated and easily reproducible techniques and assays to answer their research question, it is technically robust. The manuscript easily conveys the significance of the study and the importance of the findings. Further studies necessary to confirm the claim of the manuscript is also suggested in the paper.**	
Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form. **-**	**The references are sufficient.**	

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Minor REVISION comments **Is the language/English quality of the article suitable for scholarly communications?**	Yes, it is.	
Optional/General comments	**Under introduction section** **The first sentence in paragraph 1**: Can the Authors replace the sentence with more correct one? This sentence could be used: Breast cancer is a malignancy of the breast tissue mainly recorded in women. Globally, breast cancer is the leading the cause of cancer-associated mortality and morbidity in women. (references: https://doi.org/10.3390/ph17030361, https://doi.org/10.31557%2FAPJCP.2019.20.7.2015) **The third sentence in paragraph 1:** The sentence could be re-written as: Based on hormone receptor expression on their cell surface, which could serve as therapeutic targets, breast cancer cells can be classified into three main molecular sub-types. These include luminal subtypes expressing estrogen receptors (ER) and various degree of progesterone receptor (PR); Her2-enriched subtypes over-expressing human epidermal growth receptor 2 (Her2); and basal-like (also known as triple negative) subtypes that does not express any of these hormone receptors (ER, PR, and Her2). **The last sentence in paragraph 3:** Can the Authors put comma (,) after etoposide and then remove the comma after irinotecan. **The second sentence in paragraph 4:** The word 'alkaloid' is misspelled. Can the Authors correct that? **Under materials and methods section** **Sub-section 2.1 Chemicals and reagents:** The Author (s) can indicate the company name and location alongside the catalogue number of the respective item indicated. E.g tryspin-EDTA (Thermo Scientific, Catalog# W234354, Waltham, MA, USA) **Sub-section 2.3 cell culture and exposure to extracts:** Is the cell seeding density of 5000cells/well of 96 well plates not too small? How easy it is to visualize such a small number of cells in 96-well plates and capture the images? Using plates of bigger well size might have been better option. It appears that the captured images of cell for morphological observation is of a very low quality and poor contrast. As indicated in the result section, the images cannot be visualized to observe cell morphological changes the Authors would want the readers to visualize. **Sub-section 2.5 Sulforhodamine B assay:** What concentration of TCA was used? Were the Authors mindful of the cell toxicity of TCA? What was SRB concentration used for the assay? Authors may consider defining what IC_{50} is before it is written in an abbreviated form in the document. Overall, the procedure for this assay is excellent, especially with inclusion of positive and negative controls. **Sub-section 2.7 FRAP assay:** The Authors can rewrite the first part of the second sentence, it appears to be a sort of typographical oversight. This may be written instead: Working FRAP reagent was prepared by mixing acetate buffer….	

	Under results and discussion section **Sub-section 3.1 anti-proliferative assay:** What informed the choice of IC_{50} of 100µg/mL as an ideal anti-proliferative concentration in this study, as the Authors indicate? The author may want to consider providing the rational for readers to understand. How did the author(s) arrive at 57, and not 56, extracts from 7 plant leaves and barks prepared using 4 extraction solvents? This was not spelled out in the extract preparation process even. Assessing IC_{50} for about 60 extracts on three difference cell lines is indeed a lot of work. So, great jobs done by the Authors in there! However, IC_{50} of some of the extracts were not conducted for MCF10A cells, as can be seen in table 2 and figure 1. Do authors have explanation as to why? **Sub-section 3.2 Morphological observations** Production of cell images by the Authors for the readers to observe cellular morphological changes caused by the administration of the extract to the cells is excellent. However, the quality of the images is low. It appears to be a low magnification of 10X. The contrast is not good. The cells cannot be visualized. The authors' claims about the cell physical appearance can not be ascertained with these kinds of images. No magnification indicated about the images. Growth media are usually removed from the cells and cells are washed before cell images are captured with appropriate magnification that will make readers see the morphological characterization of the cells. **3.3 Antioxidant activity, total phenolic and flavonoid contents of the extracts:** Are the authors able to define the units of measurement of antioxidant potential in the DPPH and FRAP assays conducted? Can Authors of this manuscript also describe what the unit 'mg QE/g of the extract' means in calculating the total flavonoid contents (TFC) of the extracts from the standard curve? Where is the standard curve in the result section? Also, will the Authors be able to describe what the unit "mg/gallic acid equivalents (GAE)/g of the extract" in in calculating the total polyphenolic contents (TPC) of the extracts from the standard curve? Where is the standard curve for the TPC calculation? **The first part of the second sentence of the last paragraph of this sub-section (before the conclusion section):** Authors may consider rewriting the sentence. This can be written as: According to the results of the present study, no significant relationship was observed between the anti-proliferative properties and antioxidant properties as none of….	

PART 2:

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

Reviewer Details:

Name:	**Lauren Gollahon**
Department, University & Country	**Texas Tech University, U.S.A.**