



SDI Review Form 1.6

Journal Name:	International Journal of Biochemistry Research & Review
Manuscript Number:	Ms_IJBCRR_28222
Title of the Manuscript:	Evaluation of protein thiols and Liver glycogen content on Streptozotocin induced diabetic rats treated with aqueous extract of Bixa orellana leaves
Type of the Article	Original Research article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)



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PART 1: Review Comments

	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)
Compulsory REVISION comments	The objective of the study was to determine the protein thiols and glycogen content to evaluate the hypoglycemic activity of the aqueous leaf extract of <i>Bixa orellana</i> in diabetes induced rats. Although the topic is interesting, the manuscript is not scientifically robust and have many technical problems. 1-Introduction: 1.1. The objective of the study is not clearly defined in the introduction (lines 50-51). Evaluation of only protein thiols and glycogen content is insufficient to study oxidative stress and glycogen metabolism and does not provide enough data for a scientific paper. 1.2. References on diabetes in general and on <i>Bixa orellana</i> vs. diabetes are outdated. 1.3. Lines 35-36: provide reference for the statement. 1.4. Line 52: Do you mean 4 – 10 m? 1.5. Lines 55-58: The composition of <i>B. orellana</i> is relevant but what is the purpose of commenting on the antibacterial effects of <i>B. orellana</i>? You could give more detail on the composition of <i>B. orellana</i> leaves or its effects that could have some relationship with antioxidant or hypoglycemic effects. 2- Material and methods: 2.1. Five groups of animals have been treated (lines 90-96) but only data from 3 groups were presented. 2.2. It is very important to determine the composition of the aqueous extract of <i>B. orellana</i> seeds to clarify the compounds that could be responsible for the observed biological effects. The unknown composition of the extract evaluated is an important limitation of this study. 2.3. What was the criteria to consider that diabetes was successfully induced? Did all animal treated with streptozotocin became diabetic? 2.4. Line 96: 200 mg/kg. How did you choose this dose? Does mg of aqueous extract refers to mg of dried extract or mg equivalent to the leaves used to prepare the extract? 2.5. Lines 89-96: Five groups were treated but results showed only data from	The glycosylation of protein is the majorly contributes to the complications of DM. Further research will be done in this way. References after 2011 are provided Provided(7) Yes, 4-10m Just to note the other medicinal properties apart from the one studied. There were only four groups and the article is revised Yes, It gives a way for further research on the composition of the aqueous extract. Blood glucose was tested before and after the induction of diabetes. 200mg of the extract was found to be the effective dose for <i>B. orellana</i> from acute toxicity studies.



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	3 experimental groups. Why did you treated 14 animals in the test group, whereas all other groups had only 6 animals??? 2.6. Lines 99-100: Provide a reference. How was performed sample preparation? 2.7. Line 105: Provide the year of the reference. 3. Results: Many crucial data from the study have been omitted or not evaluated. 3.1. There is no point in duplicating data from table 1 in Figure 1 and 2. 3.2. What about blood glucose levels? 3.3. Where is data from the diabetic group treated with vehicle? Data from diabetic vehicle group is absolutely essential to draw the conclusions. 3.4 Where is data from the diabetic group treated with insulin? 3.5. There is no purpose in comparing the normal group (non diabetic) to the test group (diabetic + B. orellana extract) as we do not know the behaviour of the diabetic vehicle group. The revelant comparison is diabetic vehicle group vs. test group. 3.6. Lines 124-127 and 131-133: Text description of results is confusing. You have not presented data for the diabetic control (vehicle group) in table or figures. Instead, you have duplicated data from table 1 in Fig. 1 and 2. The comparison among data presented is useless for the conclusion. 4. Discussion: 4.1. Lines 138-139: "...we demonstrated that...hyperglycemia, renal function deficits and oxidative damage in liver and pancreas." Do you have this data? It would be absolutely important to consistently incorporate more data to the study to increase its scientific contribution. 4.2. Lines 143-144: Provide a reference. Are you sure that glycation form disulphide bonds? I think that glycation majorly modifies amino groups as the reaction of protein amino groups from sugar carbonyl groups yield the frutosamine/glucosamine. 4.3. Lines 149-150: Provide a reference. B. orellana??? 4.4. Line 152: also showed 5. Conclusion: Conclusions are not supported by data.	Since it's a test group under study Revised It's a part of other study paper Thiol group is attached to albumin through SH group which is oxidized. <i>Bixa orellana</i>
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	5.1. Lines 163-165: Increase compared to which group? Compared to the control (non-diabetic group). The important question is whether the aqueous extract could prevent diabetic-induced changes. In this context, we must know the behaviour of the diabetic group compared to the test group. 5.2. Lines 165-166: Do you mean antioxidant properties were parallel to the hypoglycemic effects? Glycemia data have not been shown. 5.3. Lines 166-168: The rate of gluconeogenesis, blood insulin and glycemia levels were not presented in the manuscript. 6. References: revise format 7. Table 1: What is the unit of glycogen levels? What does hs means? Why do you have data from only 9 animals in the test group, whereas 14 animals have been treated (see Material and methods)? 8. Figures 1 and 2: Exclude. Useless duplication of data. 9. There is misuse of capital letters in the middle of sentences in the whole manuscript. 10. Manuscript should be submitted to English revision.	Revised References revised hs is values with high significance mg of glucose/g of liver tissue
Minor REVISION comments	1- Line 74: Was rat diet composed only of wheat gluten??? Why did you used such diet?	Yes the wheat gluten
Optional/General comments		