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| Book Name: | [Contemporary Research and Perspectives in Biological Science](https://www.bookpi.org/bookstore/product/contemporary-research-and-perspectives-in-biological-science-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4149** |
| Title of the Manuscript:  | **A detailed study on gills of highly nutritious catfish Clariasbatrachus following long-term exposure and withdrawal of disodium arsenate heptahydrate (Na2HAsO4.7H2O): A Histopathological and Histochemical approach** |
| Type of the Article | **Book chapter** |

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| PART 1: 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. A minimumof 3-4 sentences may be required for this part.** | Thismanuscriptisimportantforthescientificcommunityasitstudiesthechangesinthegills of *Clariasbatrachus*(a highly nutritious catfish) caused by exposure to disodium arsenate heptahydrate,acommon waterpollutant. It alsoexaminesboththelong-termdamageandthe recovery after the exposure, showing how this species is both affected and able to recover partially from arsenic toxicity. Thisresearch highlights key changes, such as how mucous cells and chloride cells respond to the toxin, which helps us understand the effects of arsenic on aquatic life. |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | Suitablebutneed tomake itmoreconcise without losingthemeaning.**Suggest title:** Histopathological and Histochemical Effects of Disodium Arsenate HeptahydrateonGillsofNutrient-RichCatfish(*Clariasbatrachus*)OverExtended Exposure and Withdrawal Periods |  |
| 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. | **There are certain grammatical mistakes in the abstract, change it accordingly for more clarity and improvement:**1. "Present study analyses the effect of gills" ---- The present study analyzes the effectson the gills"
2. "the main respiratory organs of a highly nutritious catfish *Clariasbatrachus*; local name MANGUR of the region" ---- "the main respiratory organs of the highly nutritious catfish *Clariasbatrachus*, locally known as MANGUR"
3. "located on either side of the head region and always remain in direct touch with external aquatic stressors including the arsenic salts. ""located on eithersideofthe

headregion,whichalways remain"1. blood channels of the secondary gill lamellae was seen. ----- blood channels of the secondary gill lamellae wer**e** seen
2. "Fusion of adjacent primary gill lamellae was often seen at certain places of damaged gills" ---- "Fusion of adjacent primary gill lamellae was often seen in certain areas of the damaged gills"
3. ThenormalladderlikearrangementofvascularcomponentThenormalladder-like

arrangementofvascularcomponents1. "Density and area occupancy and staining properties of mucous cells (MCs) was altered" ---- "The density, area occupancy, and staining properties of mucous cells (MCs) were altered"
2. "Howevermoreinclinedtowards""However,moreinclined towards"
3. "Hyperplasiafollowed by degeneration of chloride cells wasfrequently noticed"---- "Hyperplasia followed by the degeneration of chloride cells was frequently noticed
4. "Followingwithdrawalofdisodiumarsenateheptahydrate"-----"Followingthe withdrawal of disodium arsenate heptahydrate"
5. "amongthegillfilaments.Gillshowevercontinuedtoshow"----"amongthegill filaments; however, the gills continued to show"
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| **Is the manuscript scientifically, correct? Please write here.** | The manuscript provides valuable insights into the **impact of disodium arsenate heptahydrate on the gills of *Clariasbatrachus***, a species of significant economic and nutritionalvalue.However,someclarificationsandaclearscientificexplanationorreferences areneeded. |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.****-** | **Okaybut**somereferencesforaclearscientificexplanationareneeded. |  |
| Is the language/English quality of the article suitable for scholarly communications? | Thelanguage qualityof themanuscript needs some improvement to meet the standards for scholarlycommunication.Althoughthescientificcontentisstrong,grammaticalissuesand awkward phrasing are present, which can hinder clarity.  |  |
| Optional/Generalcomments | The manuscript shows strong scientific merit but requires revisions for clarity, consistency, andadherencetojournalguidelines,withissuesincludingfewgrammaticalerrors,reference formatting inconsistencies, redundancy, and insufficient evidence for certain claims.‘A detailed study on gills of highly nutritious catfish Clariasbatrachus following long-term exposure and withdrawal of disodium arsenate heptahydrate (Na2HAsO4.7H2O): A Histopathological and Histochemical approach.’**Introductionsection**Theintroductorypart needs moreclarityandconciseness; alsoneedscertainchanges**:**1. "Arsenic,awell-known natural toxicantis present inplentyintheearth crust."

Suggestion:"Arsenic,a well-knownnaturaltoxicant,isabundantinthe Earth'scrust."1. "when human uses water for drinking and/or for another purposes." Suggestion:"whenhumansusewaterfordrinkingandotherpurposes."
2. "In surface water bodies like ponds, lakes, rivers etc, arsenic becomes available to non-human animals and the fishes are one of them."

Suggestion: "In surface water bodies like ponds, lakes, and rivers, arsenic becomesavailable to non-humananimals, includingfish."1. The phrase "in plenty" and "plenty" is repeated twice. To avoid redundancy, consider rephrasing or using synonyms.
2. Rajan and Banerjee, 1993b mentioned in the text is not in the reference list. Citations of Singh et al. 2016; Janyani and Singh, 2017, 2018abc, 2019ab mentioned in the text must have references. Please ensure that each reference corresponds to at least one in-text citation.

**Materialsandmethodssection:**Needscertainchangesformoreimprovementandclarity.1. "Fishwerebroughttothelaboratoryinaplasticbucketwithappropriateamountofwaterand covered with mosquito net."

Suggestion: "Fish werebrought tothelaboratoryinaplasticbucketwithan appropriateamountofwaterand coveredwith a mosquito net."1. "Fish were washed with very concentration of potassium paramagnet solution". What is potassiumparamagnet here? Rechecked.
2. ‘Plasticbucketwithappropriateamountofwater’.add‘an’beforeappropriateamount.
3. "After15 days of acclimation period, fish were divided into ten groups each with total 10 fish andkept separately into plastic tubs."

Suggestion: "After the 15-day acclimationperiod, fishweredividedintoten groups, eachwith a total of 10 fish, and keptseparately in plastic tubs."1. "Alltengroupsoffishwereexposedtotenlitre(10L)changeto‘Alltengroupsoffishwere exposed to ten liters (10 L) ‘
2. "Parallelly, control fish were exposed to plain tap water." A sentence start with the word *parallelly* seems awkward and less natural in English instead, use a more common words likesimultaneously/in parallel/ at the same time etc.
3. "Entire gills from both sides of *C. batrachus*were dissected out, washed in normal saline to remove blood clots present if any and fixed in 10% neutral formalin"

Suggestion:"Entiregillsfrombothsidesof*C.batrachus*weredissectedout,washedinnormalsalineto removeanybloodclotspresent, and fixedin 10% neutral formalin"1. Temperaturenotation**:**"600C "shouldbewritten as"60°C".
2. "Lieca"shouldbecorrectedto"Leica"consistentlythroughoutthetext.
3. "LiecaMicroscopyandScientificInstrumentsGroupGermany"shouldincludeacommabefore "Germany".

**Resultssection**1. Theterm"alternatelyarranged"isrepeated multipletimes.Consider varyingword choice.
2. "Respiratoryepitheliumremainscomposedwithepithelialcells..."couldbecleareras"The respiratory epithelium is composed of epithelial cells..."
3. "vascular(blood channels"-Theparenthesisis incompleteand shouldbecorrected.
4. Missingpunctuation, e.g.,"(e.g. after12hand24hofexposure)"lacksproper sentenceintegration.
5. Overuseof"hyperplasia"and "haemorrhage."Couldbe simplified.
6. Phrases like "03h," "06h," "03 day" are inconsistent in formatting and readability. Use a consistentformat (e.g., "3 hours," "3 days").
7. Redundancy**:**Repeateduseof"repair,""regeneration,"and"decreasedthickness"withoutadding new details. Rechecked.

**Discussionsection:**Herearesomemistakesinthe scientificwork orsentences,alongwithsuggestions:1. Delnomdedieu*et.al.*1994giveaspacebetweenDelnomdedieuand*et.*
2. Singh,2023 mentionedin the textis notinthereferencelist
3. Rajan and Banerjee, 1993b, 1994b mentioned in the text is not in the reference list, it seems the author didn’t check carefully before submission.
4. "Prolonged exposure of disodium arsenate heptahydrate leads to wear and tear and hence loss of lamellar structure." ---- The mechanism behind the "wear and tear" and lamellar loss is not clearly explained.

Comment:Provideaclearscientificexplanationorreferenceforhowarseniccauseswearand tear (e.g., oxidative stress, enzymatic damage).1. "Massive secretion of sulphated glycoproteins by the mucous cells perhaps helps to bind the arsenic salt in an attempt to reduce its toxic impact."

Comment: The use of "perhaps" makes the statementspeculative. Evidence for arsenic binding by glycoproteinsshouldbecited. Addreferencessupporting the claim or clarifythatitis a hypothesis.1. "Arsenic binds with sulfhydryl groups of proteins such as GSH and cysteine... also causes cellular toxicity." This claim needs stronger linkage between sulfhydryl binding and specific cellular toxicity observed in *Clariasbatrachus*.

Comment: Relatethismechanismmoredirectlytotheobservedgilldamage in short.1. "The structure of regenerated gills however continues to differ from that of untreated control." The differences from the control are not quantified or described in detail.

Comment: Specify how the regeneratedgillsdifferfrom the control group (e.g., thickness, cell arrangement).1. Using of inconsistent unit in the sentence: Fish exposed to 1 to 2 μg of arsenic/ litre for 2 – 3 days show haemorrhagic spheres on gills. Change to: Fish exposed to 1–2 µg/L of arsenic for 2–3 days exhibited hemorrhagic lesions on the gills.

**References section:** Referenceslistneeds exhaustive revision; itseems the authors have not followed thejournal guidelines. Rechecked.SomeGeneralIssuesintheReferenceswhichneedtobechangedare:1. There is Inconsistent Use of Abbreviations and Full Forms:example: "J. Freshwater Biology" vs. "Journal of Freshwater Biology." And "Biological Research" appears in full, while others are abbreviated inconsistently.
2. Also find somereferences includefull authornames (e.g., Laurent, P.),whileothers useinitials (e.g., T. K. Banerjee).
3. Inconsistent Formatting ofJournal Titles: Sometitles are italicized (e.g., *Acta ZoologicaTaiwanica*), while others are not.
4. Somereferencesinclude issuenumbers (e.g.,*Vol.9,Issue12*),whileothersdo not.
5. In some cases, the year appears in parentheses (e.g., *1994*), while in others it is listed without parentheses.
6. Reference8includes aURLbut lacksproperformattingandaccess date.
7. Inconsistent Page Number Formatting: For example, "pp. 73 – 183" uses a long dash, while othersuse short hyphens like "233-240."
8. In reference1."Pscies"shouldbecorrectedto"Pisces."
9. Reference11: Thespecies name*Salmogaidneri*shouldbeitalicized.

**Overall comment:**The manuscriptdemonstratesstrongscientificmerit but requiressignificantrevisions for clarity, consistency, and adherence to journal guidelines. Key issues include grammatical errors, inconsistentformatting of references, and redundancy in phrasing. Additionally, certain claims lacksufficientevidenceor explanation, such as mechanisms of arsenic-inducedtoxicity and regenerationdifferences. Addressingthese issues willenhance the manuscript'sreadability, scientificrigor, and overall impact. |  |

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| **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)*** |  |

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| **Reviewer Details:** |
| **Name:** | **Keisham Lebanan** |
| **Department, University & Country** | **Rabindranath Tagore University, India** |