

REVIEWER'S REPORT

Manuscript No.: IJAR-56682

Title: Contribution à l'inventaire de la diversité phytoplanctonique de la mare d'Albarka à Ziguinchor, département de Gaya au Niger

Recommendation:

Accept as it is

Accept after minor revision.....

Accept after major revisionYES.....

Do not accept (*Reasons below*)

Rating	Excel.	Good	Fair	Poor
Originality		√		
Techn. Quality			√	
Clarity				√
Significance		√		

Reviewer's ID: JPR-094

Detailed Reviewer's Report

Overall Evaluation

The manuscript presents a floristic inventory and physico-chemical characterization of a wetland ecosystem in Niger. The study is relevant and contributes baseline ecological data; however, major revisions are required before it can be considered for publication.

Strengths

1. **Original regional contribution**

* Provides baseline data for a relatively underexplored wetland ecosystem in Niger.

* Valuable for biodiversity documentation and future ecological monitoring.

2. **Comprehensive taxonomic inventory**

* Identification of 76 species across 13 families and 25 genera.

* Good representation of phytoplankton diversity, especially Desmidiaceae dominance.

3. **Integration of environmental parameters**

* Includes physico-chemical analysis (pH, DO, nitrates, etc.).

* Attempts to correlate biological and environmental data using CCA (Canonical Correspondence Analysis).

4. **Seasonal comparison**

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* Sampling during **high water and low water periods** adds ecological relevance.

Weaknesses

1. **Formatting and Structure Issues**

* Manuscript contains:

* Line numbers (not required for final publication)

* Inconsistent spacing and formatting

* Missing **author details and affiliations**

* Abstract and keywords formatting is not journal-standard.

2. **Language and Grammar**

* Numerous grammatical errors in both **French and English sections**

* Examples:

* “physico-chemical of the water” → incorrect phrasing

* Repetition and awkward sentence construction

* Needs **professional language editing**

3. **Methodological Limitations**

* Sampling:

* Only **two sampling periods** → insufficient for strong seasonal conclusions

* Lack of:

* Replication details

* Statistical validation (ANOVA, significance testing)

* Identification:

* Sole reliance on morphology → no **molecular confirmation**

4. **Data Analysis Weakness**

* CCA results presented but:

* Interpretation is **superficial**

* No ecological depth (e.g., trophic status, pollution indication)

* No diversity indices:

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* Missing **Shannon, Simpson, Evenness**

5. **Discussion is Weak**

* Mostly **descriptive**, not analytical

* Limited comparison with global literature

* Does not clearly explain:

* Ecological implications

* Role of invasive species mentioned in abstract

6. **Referencing Issues**

* Inconsistent citation format

* Some references incomplete or outdated

* Not aligned with journal style (APA/Vancouver etc.)

****Key Points for Improvement****

1. **Improve language quality**

* Professional proofreading (English + French)

2. **Enhance methodology section**

* Add sampling design justification

* Include replication and statistical methods

3. **Strengthen data analysis**

* Add:

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- * Diversity indices (Shannon, Simpson)

- * Statistical tests (p-values)

- * Improve interpretation of CCA

4. **Deepen discussion**

- * Link findings to:

- * Water quality status

- * Ecological health

- * Comparison with similar ecosystems

5. **Formatting corrections**

- * Remove line numbers

- * Standardize tables, figures, references

6. **Clarify novelty**

- * Clearly state:

- * What is new compared to previous studies in Niger

****Significance of the Study****

- * Important for:

- * **Wetland conservation**

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* **Biodiversity assessment in West Africa**

* **Baseline ecological monitoring**

* Can support:

* Environmental management policies

* Ramsar site conservation strategies

****Recommendation****

****Decision: MAJOR REVISION REQUIRED****

The manuscript has ****good scientific potential****, but:

* Requires ****substantial improvement in language, analysis, and interpretation****

* Needs ****better scientific rigor and presentation****

****Final Comment to Author****

The study addresses an important ecological topic and provides useful baseline data. However, the manuscript requires ****major revision in language, methodology, and analytical depth**** to meet the standards of an international scientific journal.

MAJOR REVISION JUSTIFICATION

TITLE (Lines 1–2)

****Issue:****

* “Contribution à l’inventaire...” → vague and not specific

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* No mention of **methodology, time frame, or key variables**

Why Major:

* Title lacks clarity and scientific precision

✓ Needs restructuring to reflect **scope + methods + study design**

ABSTRACT – FRENCH (Lines 5–22)

Line 6–7

Issue:

* “inventairede” (missing space)

* Poor grammar and formatting

Why Major:

* Indicates **lack of proofreading** → affects credibility

Line 8–10

Issue:

* “lieu où prolifèrent...” → vague ecological claim without evidence

* No quantitative support for invasive species statement

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****Why Major:****

* Scientific claims ****not supported by data****

Line 10–12

****Issue:****

* Sampling design unclear:

* Only ****two campaigns****

* No replication or statistical justification

****Why Major:****

* Weak experimental design → affects reliability

Line 12–14

****Issue:****

* Logical inconsistency:

* “76 microphytes... 76 species” (redundant)

* Poor structuring of taxonomy

****Why Major:****

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* Taxonomic reporting lacks clarity and standard format

Line 14–16

****Issue:****

* Statement:

“chlorophycées... mieux représentées”

* General ecological statement, not study-specific

****Why Major:****

* Discussion mixed into abstract → not acceptable

Line 16–19

****Issue:****

* Physico-chemical data poorly formatted:

* Units inconsistent (mg L⁻¹ spacing issues)

* Nitrite value “2.9 ± 07” incorrect format

****Why Major:****

* Data presentation errors → scientific inaccuracy

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Line 20–21

Issue:

* Overgeneralized conclusion:

* “eau douce... faible taux d'ions”

Why Major:

* No classification standard used (e.g., WHO, limnological criteria)

ABSTRACT – ENGLISH (Lines 27–43)

Line 29

Issue:

* “physico-chemical of the water” → incomplete phrase

Line 33–35

Issue:

* Same redundancy as French abstract

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Line 36–37

****Issue:****

* Grammar:

“it is the chlorophyceae that are best represented”

Line 38–40

****Issue:****

* Same formatting errors as French version

Line 41–42

****Issue:****

* “a fresh water” ☐ incorrect → should be “freshwater”

****Why Major (Abstract overall):****

* Poor English + formatting + redundancy

✓ Abstract fails to meet ****journal standards****

INTRODUCTION (Lines 44–81)

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Line 45–48

****Issue:****

* Too descriptive, lacks scientific gap

Line 49–56

****Issue:****

* RAMSAR and FEM mentioned but:

* No proper explanation

* No recent references

Line 57–61

****Issue:****

* General statements about biodiversity loss without data

Line 62–65

****Issue:****

* Citation formatting incorrect (no consistency)

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Line 71–75

****Issue:****

* “70% oxygen production” claim:

* Needs strong citation (often misused)

Line 78–81

****Issue:****

* Objectives poorly written:

* No hypothesis

* No research question

****Why Major:****

* Introduction lacks:

* Clear ****research gap****

* Strong ****justification****

* Updated references

MATERIALS & METHODS (Lines 82–133)

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Line 83–88

Issue:

* Area inconsistency:

* 4044 km² vs 342 km² □

Line 104–109

Issue:

* Sampling:

* No mention of:

* Replicates

* Sampling depth

* Preservation conditions (detailed)

Line 110–119

Issue:

* Filtration method unclear:

* Why 45 µm? 100 µm? 11 µm?

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* No justification

Line 123–130

Issue:

* Identification:

* Only morphological methods used

* No molecular confirmation

Why Major:

* Methodology lacks:

* Reproducibility

* Scientific rigor

RESULTS (Lines 134–218)

Line 135–142

Issue:

* Data repetition from abstract

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Table 2

****Issue:****

* Units inconsistent

* No statistical test (ANOVA, p-values)

Line 150–153

****Issue:****

* Only descriptive statistics

* No diversity indices (Shannon, Simpson)

Line 164–166

****Issue:****

* Genus dominance reported without ecological interpretation

Line 195–204 (CCA Analysis)

****Issue:****

* No software mentioned

* No validation (e.g., permutation test)

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****Why Major:****

* Results lack:

* Statistical depth

* Advanced ecological analysis

DISCUSSION (Lines 219–248)

Line 221–225

****Issue:****

* Only comparison with other studies

* No mechanistic explanation

Line 226–230

****Issue:****

* Weak explanation of variability

Line 234–240

****Issue:****

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* Repetition of results (not discussion)

Line 244–248

****Issue:****

* CCA interpretation superficial

****Why Major:****

* Discussion lacks:

* Critical analysis

* Ecological insights

* Novel contribution

CONCLUSION (Lines 249–258)

****Issue:****

* Too general

* No specific findings

* No future recommendations

****Why Major:****

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* Weak conclusion reduces impact of study

REFERENCES (Lines 266–382)

****Issues:****

* Inconsistent formatting

* Old references (many pre-2010)

* Missing DOI in many cases

FINAL JUSTIFICATION FOR MAJOR REVISION

This manuscript requires ****MAJOR REVISION**** due to:

☐ Critical Problems:

1. Poor language quality (French + English)
2. Weak methodology (sampling & analysis)
3. Lack of statistical rigor
4. Inconsistent and incorrect data presentation
5. Absence of clear research gap
6. Redundant and descriptive results
7. Weak discussion and interpretation
8. Formatting and referencing issues

☐ WHAT AUTHORS MUST DO

* Rewrite abstract (both languages)

* Improve methodology (add statistics, justification)

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- * Add diversity indices + statistical tests
- * Strengthen discussion with ecological interpretation
- * Correct formatting, grammar, and references