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REVIEWER'S REPORT

Manuscript No.: IJAR-56515

Title*:* Ethnobotany and antimicrobial potential of ethanolic extracts of plants sold in the markets of Boundiali (Northern Ivory Coast)

Recommendation:

Accept as it is .....

✓ Accept after minor revision.....

Accept after major revision .....

Do not accept (*Reasons below*) .....

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

Reviewer Name: Dr S. K. Nath

Detailed Reviewer's Report

Strengths of the Study

- **Originality:** The study explores ethnobotanical knowledge and scientific validation of medicinal plants specific to Northern Ivory Coast, contributing to the understanding of local traditional medicine.
- **Relevance:** Addresses a pressing public health issue antibacterial resistance by investigating plant-based alternatives.
- **Methodology:** Uses standard phytochemical screening techniques, agar diffusion assays, and determination of MIC/MBC, which are appropriate for evaluating antibacterial activity.
- **Data Quality:** Presents quantitative data, including inhibition zone diameters, MIC, and MBC values, with statistical analyses.
- **Contribution:** Identifies promising candidate plants, especially Funtumia africana, that could inform the development of alternative antimicrobial agents and promote conservation efforts.

Weaknesses of the Study

- **Methodological Limitations:** Limited description of replicates and controls in antibacterial assays; lacks detailed methodology on extract preparation (e.g., solvent-to-plant material ratios).
- **Sample Size:** The study tests extracts from 10 plants against multiple bacterial strains but does not specify the number of replicates for each test, which raises concerns about statistical robustness.
- **Statistical Analysis:** Using only p-values without detailed discussion on confidence intervals or effect sizes; more comprehensive statistical treatment recommended.
- **Ethical Gaps:** No mention of ethical approval or clearance for collecting plant materials or testing bacterial strains; important for compliance with research standards.
- **Presentation and Formatting:** Some sections, especially tables and figures, are not fully clear or properly formatted; the inclusion of visual data like images or clearer charts would improve comprehension.
- **References:** Few references are recent or comprehensive; some key recent studies on plant antimicrobial activity are missing.

Reviewer Comments

- **Title and Abstract** The title clearly indicates the study's scope. The abstract summarizes objectives, methodology, main results, and conclusion effectively but could benefit from clearer

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structure and more precise data presentation. Including specific MIC/MBC values in the abstract would strengthen its informativeness.

- **Introduction and Objectives** The introduction provides adequate background on the relevance of ethnobotanical studies and antimicrobial resistance. However, it could better state the specific hypotheses or research questions, such as whether the selected plants have scientific backing for antibacterial activity or are solely based on traditional use.
- **Methodology and Statistical Analysis** Methods for preparing extracts, testing antibacterial activity, and phytochemical screening are generally appropriate but lack detailed protocols—particularly regarding the number of replicates, controls, and validation procedures. Statistical analyses are limited; the use of only p-values without confidence intervals or effect size measurements reduces interpretability. Clarification on the use of R software and specific tests applied would be helpful.
- **Results and Discussion** Results are logically organized. Funtumia africana's notable activity is well stated, supported by MIC/MBC data. The discussion connects phytochemical constituents to observed activity but sometimes overgeneralizes conclusions without sufficient experimental evidence. The correlation between traditional uses and antibacterial effects is discussed but could be expanded with more comparative data.
- **Conclusion and Implications** Conclusions highlight the potential of these plants as sources of antibacterial agents and emphasize conservation. However, recommendations could include the necessity for further in vivo studies and toxicity assessments.
- **Ethical Clearance** There is no mention of ethical approval for plant collection or bacterial strain handling. Clarification from the authors about observer approval processes and clearance numbers is necessary.
- **Language and Presentation** Overall, the manuscript's language is sufficiently clear but requires proofreading to correct minor grammatical issues and improve flow. Some tables lack sufficient clarity or detail; formatting should be standardized.
- **Figures, Tables, References** Tables are appropriate but could be presented with clearer formatting. Figures are minimal; inclusion of visual representations of zones of inhibition or chromatograms might enhance understanding. References are relevant but should be updated with recent studies for completeness.