

REVIEWER'S REPORT

Manuscript No.: IJAR-58878

Title: Inventory of the entomofauna cohabiting with colonies of the domestic honeybee, *Apis mellifera adansonii*, in two agroecological zones of Burkina Faso.

Recommendation:

Accept as it is

Accept after minor revision

Accept after major revision

Do not accept (*Reasons below*)

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

Reviewer's ID: JPR- 115 Dr Thirunahari Ugandhar

Detailed Reviewer's Report

Minor Comments

1. Correct the scientific name formatting to *Apis mellifera adansonii*.
2. Correct "Aethinatumida" to *Aethina tumida* throughout.
3. Correct typographical errors such as "ainsect."
4. Ensure all scientific names are italicized.
5. The title could be grammatically improved by using "associated with" rather than "cohabiting with," depending on the intended ecological meaning.
6. Define all abbreviations at first use, including F.C., F.O., S, H', and J'.
7. Ensure consistent terminology for Bobo-Dioulasso, Ziniaré, and Sapouy.
8. Clearly distinguish region, commune, village, and agroecological zone.
9. Provide references for all identification keys used.
10. Check whether all cited references appear in the reference list and vice versa.
11. Tables should contain complete legends and explain all abbreviations.
12. The manuscript would benefit from a map of Burkina Faso showing the three sampling regions.
13. A photograph or plate of the major pest species could improve the practical value of the paper.
14. The manuscript should clearly state the ethical or institutional permissions obtained for hive sampling, if applicable.
15. The English language requires careful grammatical and scientific editing by a fluent scientific English speaker.

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Suggested Additional Tables/Figures

The manuscript would be substantially improved by including:

Table 1. Taxonomic inventory of all 15 insect species with abundance and relative abundance.

Table 2. Frequency of occurrence of each insect species by region and sampling period.

Table 3. Shannon, Simpson, Pielou, and richness values for each region and season.

Table 4. Sampling effort and sampling-quality assessment.

Figure 1. Map showing the study sites in Burkina Faso.

Figure 2. Relative abundance of major hive-associated insect species.

Figure 3. Species accumulation curve demonstrating sampling adequacy.

Figure 4. PCA ordination of insect community composition among the three study regions.

The manuscript addresses an important topic on insect diversity associated with *Apis mellifera adansonii* colonies in Burkina Faso and provides useful information for honeybee pest management. The two-year sampling period and identification of 15 insect species are valuable strengths.

However, some revisions are required:

1. Clarify the inconsistency regarding the number of agroecological zones and study regions.
2. Correct taxonomic and typographical errors, particularly *Aethina tumida* and *Apis mellifera adansonii*.
3. Clearly describe the sampling design, number of sampling events, and statistical methods.
4. Recheck the diversity-index equations, especially the Shannon-Wiener formula and include the Simpson and Pielou equations.
5. Provide complete abundance and frequency data for all 15 species in the tables.
6. Explain the criteria used to classify species as rare, accidental, accessory, regular, or constant.
7. Provide more methodological details and interpretation of the PCA.
8. Avoid claiming causal effects of insects on colony decline unless experimentally demonstrated.
9. Strengthen the Discussion by comparing the findings with previous studies from Burkina Faso and other African countries.
10. Improve English language, formatting, table presentation, and consistency of numerical data.

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Recommendation: Major Revision. The study is relevant and potentially publishable after these issues are adequately addressed.