

Open Master Thesis

Assessing the Impact of Flowering Shrubs on Insect Diversity in Chicken Enclosures: A Metabarcoding Approach

The proposed master thesis aims to assess the diversity of insects in chicken enclosures and investigate the potential benefits of flowering shrubs on insect diversity. The study will utilize metabarcoding techniques to analyze provided samples of insects collected from different enclosure types. Additionally, the thesis will focus on optimizing barcoding protocols for microhymenopteres, a group posing challenges in genetic analysis.



Work Packages:

1. Literature Review: Conduct a review of existing literature on insect diversity in agricultural settings and metabarcoding techniques.
2. DNA Extraction and Metabarcoding: Utilize provided samples of mixed insects for metabarcoding analysis, targeting specific genetic markers for insect identification.
3. Data Analysis: Analyze the metabarcoding data to assess the diversity of insects in different enclosure types, determine if there are significant differences between shrub and unstructured areas, and identify any specific trends or patterns.
4. Barcoding Protocol Optimization: Focus on optimizing barcoding protocols specifically for microhymenopteres, addressing challenges and improving the accuracy of species identification within this group.
5. Interpretation and Conclusion.

Possible Research Questions:

1. Does the presence of flowering shrubs in chicken enclosures influence insect diversity compared to unstructured areas?
2. How does the genetic diversity of insects differ between enclosures with rows of shrubs and those without?
3. How can barcoding protocols be optimized to improve species identification for microhymenopteres?

Timeframe:

The thesis can start immediately or after the summer 2023. The lab work, metabarcoding, data analysis, interpretation, and thesis writing will be completed by end of 2024.

Requirements:

Applicants for this master thesis should have a background in (molecular) biology, ecology, entomology, or related fields. Prior experience in laboratory techniques, genetic analysis, and data analysis is preferred but not mandatory.

Interested candidates, please contact:

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