INFLUENCE OF LIGHTING CONDITIONS ON ARRIVAL AND OVIPOSITION BEHAVIOR OF NECROPHAGOUS DIPTERA

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INTRODUCTION

Forensic Entomology → Study of insects/arthropods in criminal investigation.



Figure 1: Visual representation of the influence of lighting conditions on necrophagous Diptera (AI-Generated)

The time to arrival and first oviposition may vary after the substrate is exposed to several environmental factors.

Factor under study

Light availability may influence fly activity and oviposition.

OBJECTIVES

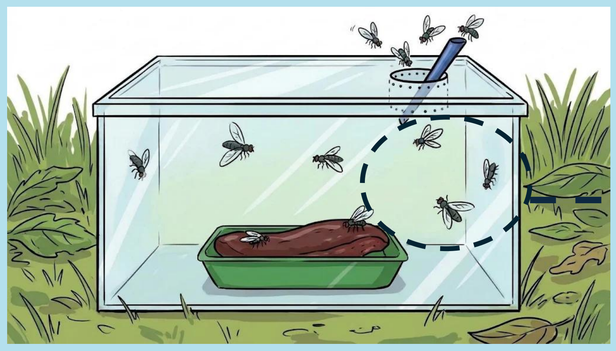
Evaluate how distinct lighting regimes affect the time to first adult landing and first confirmed oviposition by necrophagous Diptera.

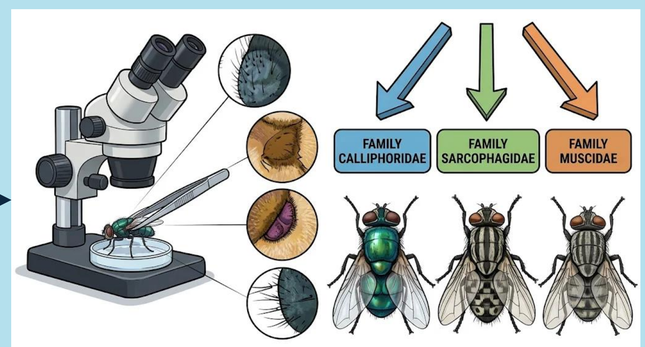
Lighting is the main experimental variable, interpretation will also consider temperature, humidity, and season.



METHODOLOGY

TAXONOMIC IDENTIFICATION





Adult Diptera captured during standardized sampling intervals will be preserved and identified morphologically under a stereomicroscope using established taxonomic keys.

CAGE AND ENCLOSURE



Reduce light



Natural photoperiod



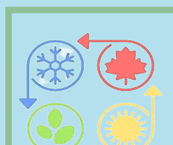
Continuous artificial light



Substrate
Porcine liver
250± 10 grams



Location
Outdoor area
Egas Moniz



Seasons
Spring-summer and autumn

Each lighting treatment will be evaluated across five replicated trials ($n = 5$). Within each trial, up to the first three egg masses deposited will be collected as subsamples for subsequent molecular species identification via *COI* gene sequencing.

MOLECULAR IDENTIFICATION

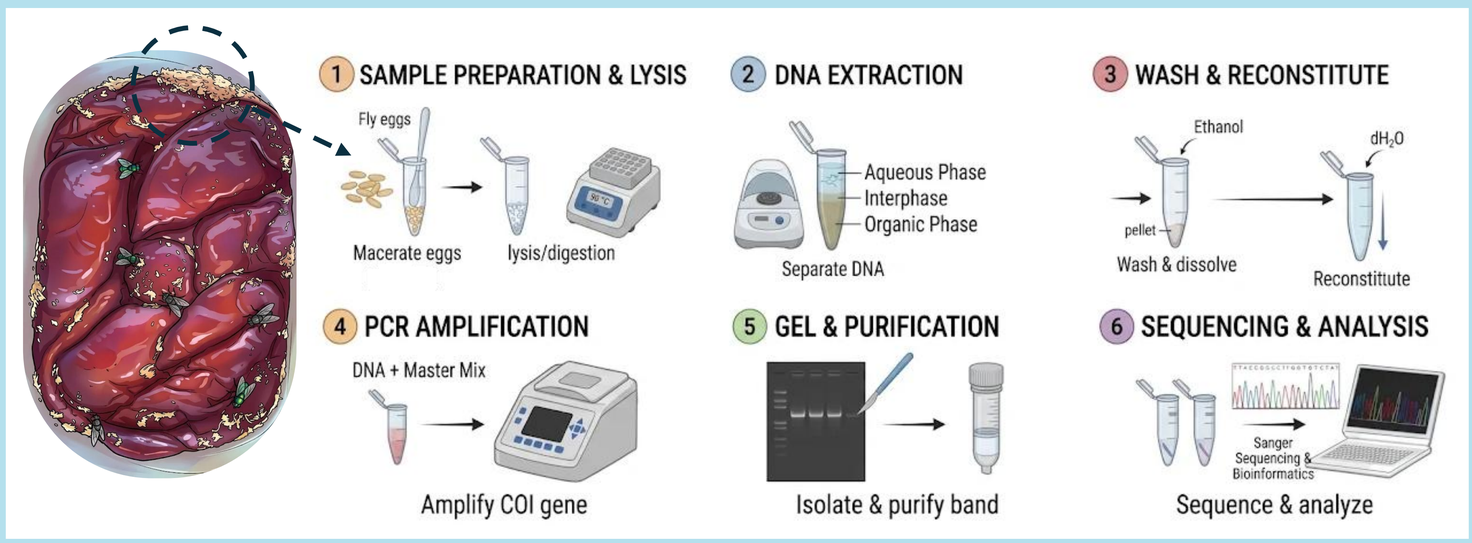


Figure 2: Flowchart of Biological and Molecular Processes (AI-Generated)

Collected data will subsequently be subjected to appropriate statistical analyses based on variable types.

IN FORENSIC

Refines mPMI accuracy by quantifying light-induced delays in fly arrival and oviposition.

SDGs ALIGNMENT



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