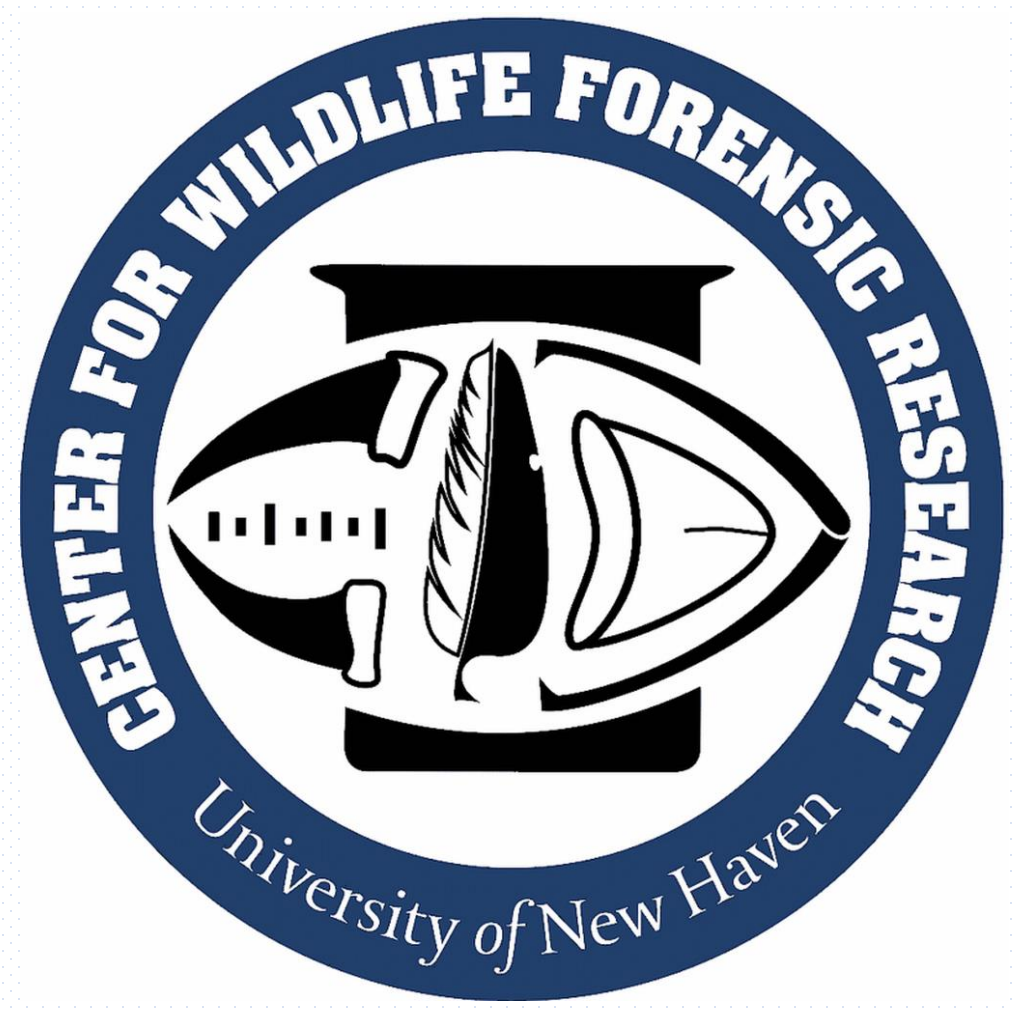




# Necrophagic Entomological Guilds on Two Climatically Disparate Atlantic Islands



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## Introduction

The majority of taphonomic research is conducted inland, so small island taphonomy research is crucial to understanding what occurs after death in or near water. The goal of this project was to learn more about the entomological communities present in small island environments.

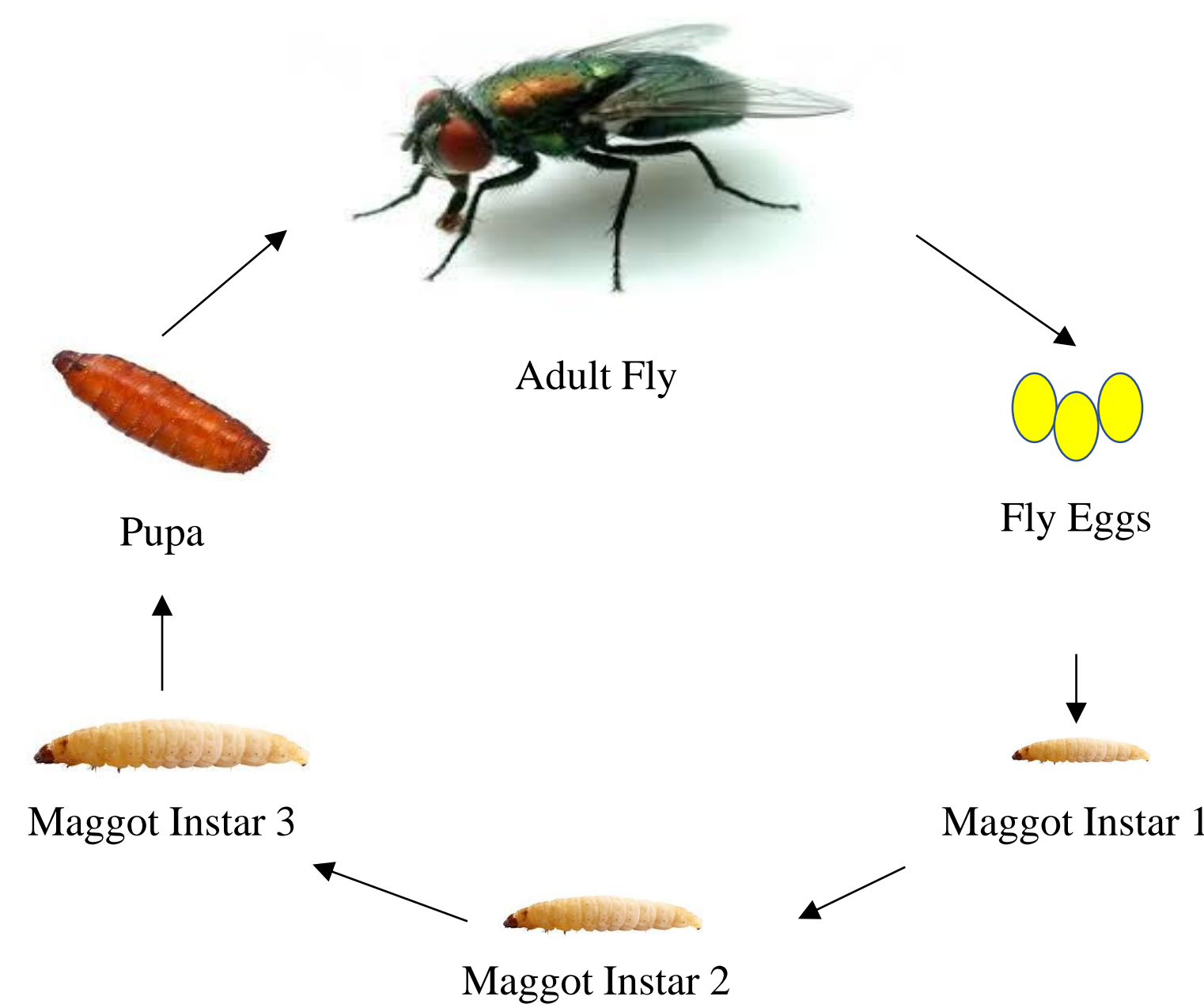


Figure 1. Life cycle of a fly\*

\*The life cycle of a fly can be used in time since death estimations

## Materials & Methods

### Set up

- Curaçao:
  - Two pig necks
  - Maggots collected in alcohol
  - Flies collected with fly paper



Figure 2. Set up on Cliff in Curaçao

- Connecticut – Horse Island:
  - Two pig legs
  - Maggots collected in alcohol
  - Adult flies collected in a fly trap



Figure 3. Set up on Horse

- Connecticut – Marsh:
  - One pig leg
  - Live maggots were reared to adulthood for identification

### Analysis

- Adult flies were identified under a microscope using a key.
- The length of the maggots and the instar was determined

## Results & Findings

- 12 adult flies and 33 maggots were analyzed from Curaçao
- 20 adult flies and 66 maggots were analyzed from Horse Island in Connecticut
- 6 adult flies were analyzed from the Marsh in Connecticut

Adult Flies Identified					
Location	Family	Subfamily	Genus	Species	Number
Curaçao	Calliphoridae	Chrysomyinae	Chrysomya	ruficacies	5
	Calliphoridae	Chrysomyinae	UNK	UNK	3
	Calliphoridae	Luciliinae	Lucilia	UNK	2
	Calliphoridae	Calliphorinae	Calliphora	UNK	1
	Calliphoridae	UNK	UNK	UNK	1
CT Horse Island	Calliphoridae	Luciliinae	Lucilia	UNK	14
	Calliphoridae	Chrysomyinae	Phormia	regina	4
	Calliphoridae	Chrysomyinae	UNK	UNK	2
CT Marsh	Calliphoridae	Chrysomyinae	Phormia	regina	6

Table 1. Identifications of adult flies that were analyzed from Curaçao, Horse Island, and the Marsh

- The most common species in Curaçao was *Chrysomya ruficacies*
- The most common species on Horse Island was *Lucilia* of unknown species

Location	Experimental Day collected	Maggots				
		Total #	Maggots in Instar 2	Average length in Instar 2	Maggots in Instar 3	Average length in Instar 3
Curaçao	2	33	2	6.5 mm	30	11.1 mm
	3	14	2	4.5 mm	11	6 mm
CT Horse Island	6	52	16	4.9 mm	35	6.5 mm

Table 2. Information collected on the maggots analyzed from Curaçao and Horse Island



Figure 4. Flies pinned and labeled after identification

## Discussion

### Limitations of fly identification

- Damage to the flies from fly paper in Curaçao
- Quantity of flies collected in Curaçao and at the Marsh

### Possible factors that contribute to longer maggots in Curaçao than in Connecticut

- Species of blowflies in the area
- Environmental conditions

### Blowflies in Curaçao were present but did not lay

- *Chrysomya ruficacies* lays a hairy maggot
- No maggot collected on the carrion matched this description

## Conclusion

The method of collection conducted on Horse Island was the best method of collection. This method lead to less damage and a higher quantity of flies.

More research needs to be conducted to standardize collection methods and increase the amount of replicates.

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## References

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