

# "Has the American burying beetle [*Nicrophorus americanus*] been extirpated from Brookhaven National Laboratory?"

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## Introduction

The American burying beetle [*Nicrophorus americanus*] was placed on the endangered species list in August 1989. These species were formerly distributed throughout 35 states and 3 Canadian provinces in eastern North America from Nova Scotia to western Nebraska and from the upper peninsula of Michigan to Texas. The American burying beetle has disappeared from over 90% of its historic range.[1] In 1989 there were only two known populations, one on Block Island, Rhode Island and one in southeastern Oklahoma near Red Oak. Other populations have since been discovered in Oklahoma, Arkansas, Nebraska, and South Dakota.[2] Due to the proximity to Block Island, similar climate and weather patterns and geology, an attempt was made to identify a population of American burying beetles at Brookhaven National Laboratory, Long Island NY. [4,6]



## Methods- Site ABB

- Locate existing traps (Fig. 2)
- Record GPS coordinates
- Bait traps with chicken [1,3]
- Create maps of GPS coordinates in GIS (Fig. 1)
- Check traps daily prior to 9 am., starting on the third day
- Re-bait traps when necessary
- Record data

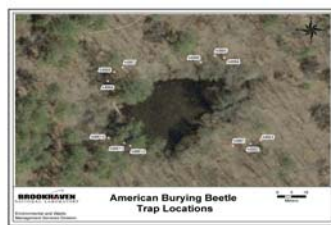


Fig. 1



Fig. 2

## Methods- Site BB

- Select trap locations
- Measure 20 meters between traps
- Flag locations
- Take GPS coordinates
- Create map in GIS with GPS coordinates (Fig. 3)
- Design and build new traps [1] (Fig. 4)
- Bait traps with chicken [1,3]
- Bury traps flush to ground level at flagged locations [1,5](Fig. 5)
- Check traps daily prior to 9 am., starting on the third day
- Record data



Fig. 3



Fig. 4

Fig. 5

## Discussion

Although no American burying beetles were encountered during the course of this study, the common burying beetle and other carrion beetles were found.

At site ABB no burying beetles were encountered. There were a number of items that could be altered to improve the likelihood of capturing burying beetles. One suggestion is to use a trap that would prevent access to other predators and another is the use of a greater mass of carrion as indicated by the literature.[1] On two separate occasions the bait was stolen from all of our traps, probably by raccoon or fox, necessitating a new trap design.

At site BB we constructed new traps to prevent the bait from being stolen; the carrion remained available for the beetles. Further modification of the traps to contain small holes for drainage of rainwater is recommended. This would allow for a greater survival rate and greater ease of collection of beetles.

## Results

Site ABB no burying beetles were identified.

Site BB burying beetle data seen in Table 1.



*Nicrophorus americanus* [8]



*Nicrophorus tomentosus*



*Nicrophorus tomentosus*

Beetle Genus and species	Encounter #1	Encounter #2	Encounter #3	Encounter #4	Encounter #5
<i>Nicrophorus obscurus</i> and <i>tomentosus</i>	0	0	11	30	2
<i>Oiceoptoma</i>	0	0	0	4	1
<i>Necrophila americana</i>	0	3	18	21	7

Table 1



*Nicrophorus orbicollis*



*Necrophila americana* [7]

## References Cited

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