



Evaluation of attractants for live-trapping nine-banded armadillos

Daniel J. Gammons¹, Michael T. Mengak¹, and L. Mike Conner²

¹ Graduate Student and Assistant Professor - Wildlife Specialist, respectively, D. B. Warnell School of Forest Resources, University of Georgia, Athens, Georgia 30602

² Joseph W. Jones Ecological Research Center, Newton, Georgia

WSFR - Wildlife Management Series No. 4

March 2005

Introduction

Within the last 150 years, the range of the nine-banded armadillo within the United States has expanded rapidly. As their range continues to expand, armadillos are increasingly coming into conflict with suburban landowners, where their rooting behavior destroys gardens, lawns, and flower beds and their burrowing behavior can damage tree roots and structure foundations. Most armadillo damage to property is a result of their feeding habits. Armadillos dig shallow holes, 3-8 cm deep and 8-13 cm long, while searching for soil invertebrates. When foraging, armadillos may inadvertently uproot ornamental plants, and they may damage structure foundations, driveways, and tree root systems by their habit of burrowing.

A recent survey of county agents by scientists at the University of Georgia found that 77.6% of all agents reported receiving complaints or requests for information on armadillos. Armadillo related inquiries made up 10.1 % of the total number of inquiries for all agents across the state, surpassing even whitetail deer (*Odocoileus virginianus*), which made up 9.6 % of all inquiries.

Armadillos are often assumed to be significant predators on ground nesting birds. Several extensive studies of armadillo diet have been made in various parts of their range, including Alabama, Louisiana, Texas, Georgia, Arkansas, and Florida. The general finding of these studies is that vertebrate matter, especially bird eggs, makes up an insignificant portion of their diet, which is generally >90% invertebrate in origin. Based on information from these studies, it seems that claims of armadillos being significant nest predators are unfounded.

However, some authors have cautioned that if armadillos merely break eggs open and lick out the contents, little evidence would remain in their stomachs, making detection of egg predation using stomach content analysis almost impossible. Using miniature video-surveillance cameras to monitor quail nests, at least one study at Tall Timbers Research Station in Florida has documented this behavior in wild armadillos. This study found that armadillos may indeed be

more significant quail predators than previously accepted. Armadillos were responsible for up to 26% of all quail nest depredations by a single predator.

Armadillos are not afforded protection under Georgia wildlife regulations (DNR website www.georgiawildlife.com) and they may be hunted or trapped year round without limit. Removal by shooting is an effective control method, but may not be a practical or desirable option for the suburban landowner. In many cases, suburban landowners would rather have animals trapped and relocated. Other control methods are available, such as habitat modification and exclusion, but these methods are often impractical over a large area, expensive, or ineffective.

Objective

Our objective was to determine an effective lure or bait for live-trapping nine-banded armadillos (*Dasypus novemcinctus*) using cage traps that can be a practical alternative to lethal removal for suburban landowners.

Methods

We trapped armadillos, using 25 x 30 x 81 cm Tomahawk wire cage traps, from April to July 2004 at the Joseph W. Jones Ecological Research Center in Newton, Georgia. Traps were placed in areas with abundant armadillo sign, but since we were primarily interested in evaluating the attractants themselves, and not necessarily trap locations, we avoided placing traps directly over burrows, where armadillos may be forced into traps. We tested the effectiveness of several baits and lures, including:

- Live night crawlers
- Rotten chicken feed
- Rotten eggs
- Marshmallows
- Vanilla wafers
- “Armor plate” a commercially available lure
- Live crickets
- Whole eggs
- Bananas
- Sardines
- Moistened soil

In addition, we tested two types of unbaited traps: (1) an unbaited trap with “wings” consisting of two 5-cm x 15-cm boards 1.8 meters long attached at one end to funnel the armadillo into the trap (Figure 1), and (2) an unbaited trap without wings.

Results

In 1,332 trap nights, we captured only 10 armadillos (0.76 captures/100 trap-nights). Of the 11 attractants evaluated, most (nightcrawlers, chicken feed, whole eggs, bananas, marshmallows, sardines, and vanilla wafers) had 0 captures. Table 1 shows the results of the 4 remaining attractants. Capture success was too low for meaningful statistical comparisons of attractants. However, when all baited traps combined (63% of trap-nights) were compared with both the unbaited traps (37% of trap-nights), there was no significant difference in capture success ($\chi^2=2.205$, d.f. =1, $p = 0.20$) (Figure 2).

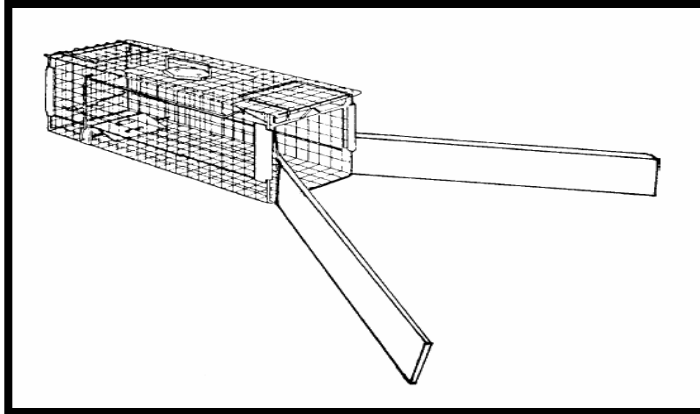


Figure 1. Diagram of the unbaited trap with wings used to capture nine-banded armadillos in South Georgia, summer 2004. Wings were constructed of pressure treated lumber.

Table 1. Trap nights, number of captures, and capture success for attractants used to attract armadillos to traps in South Georgia, summer 2004.

Attractant	Trap Nights	Number of Captures	Captures per 100 trap nights
Crickets	94	1	1.06
Rotten eggs	52	1	1.92
Moistened soil	44	1	2.27
“Armor Plate” lure	102	1	0.98

Discussion

Given that capture success was quite low, it is unlikely that trapping is an effective method of quickly reducing local armadillo populations. Until an effective attractant can be found, lethal removal by shooting remains the most effective solution. If live-trapping and relocation are chosen as control measures, however, the use of any of the attractants tested is unnecessary. Armadillos in this study were just as likely to enter a baited trap as an unbaited trap. It is likely that the armadillos we did capture randomly walked into the traps and were not necessarily attracted to the attractants themselves.

This suggests that if armadillos are to be captured, trap placement is much more important than attractant selection. Homeowners and others attempting to live trap armadillos should carefully select a trapping location. It is likely that a trap (even one without bait) with wings placed near an active burrow will be the most effective method for capturing individual nuisance animals. Homeowners and others can place traps near natural barriers or fences such as the wall of patios, edge of buildings, or landscaping features; or near natural fences such as fallen trees. The use of baits and attractants does not appear to increase trap success.

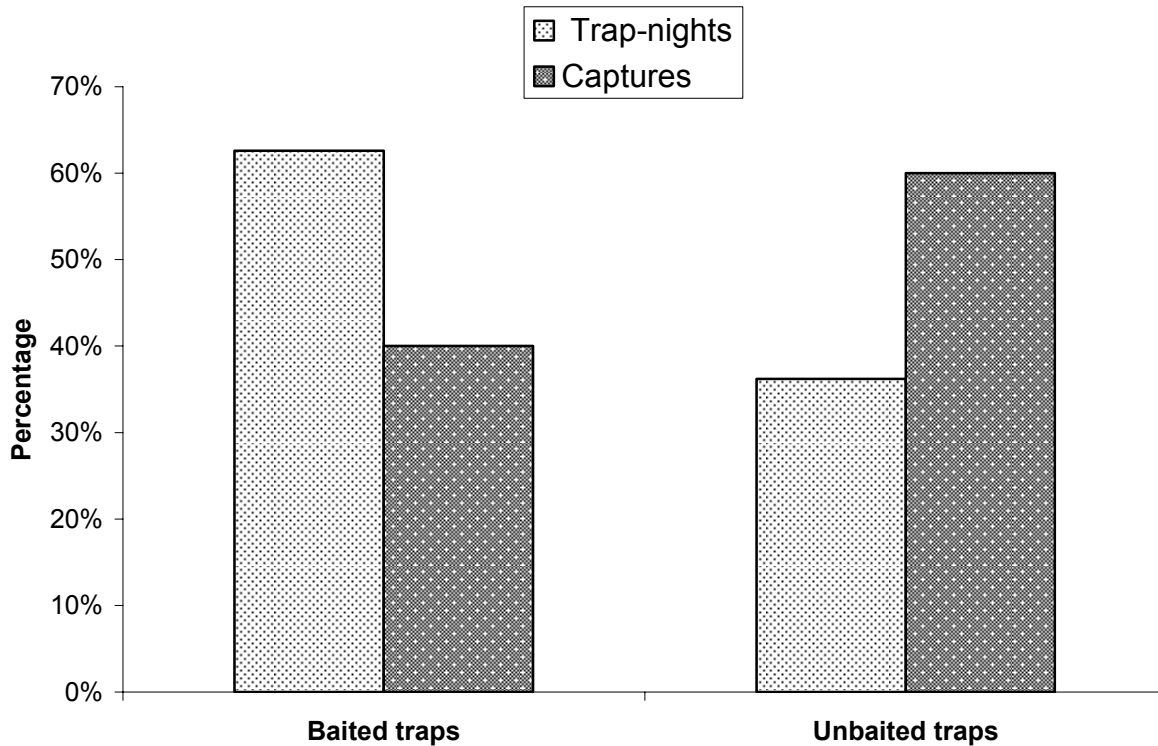


Figure 2. Percent of trap nights and captures for baited versus unbaited traps used in an armadillo capture study at the Jones Ecological Center in Newton, Georgia, summer 2004.

Acknowledgements

This study was supported by a Graduate Fellowship from the Berryman Institute – East at Mississippi State University and the J. W. Jones Ecological Research Center.

UNIVERSITY OF GEORGIA WARNELL SCHOOL OF FOREST RESOURCES PUBLICATION – **WSFR -WMS 05 – 04**



THE UNIVERSITY OF GEORGIA AND FT. VALLEY STATE UNIVERSITY, THE UNITED STATES DEPARTMENT OF AGRICULTURE AND THE COUNTIES OF THE STATE COOPERATING.

THE COOPERATIVE EXTENSION SERVICE OFFERS EDUCATIONAL PROGRAMS, ASSISTANCE AND MATERIALS TO ALL PEOPLE WITHOUT REGARD TO RACE, COLOR, NATIONAL ORIGIN, AGE, SEX OR DISABILITY. A UNIT OF THE UNIVERSITY SYSTEM OF GEORGIA.

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION ORGANIZATION COMMITTED TO A DIVERSE WORK FORCE.
