

Modifications to the bownet trapping method to increase safety for medium-sized, agile birds

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Introduction

Many people aim to capture birds for research in a way that maximizes efficiency and safety. However, trapping methods often have trade-offs that are not well known. For example, prioritizing safety can reduce trap efficiency, and camouflage can reduce functionality for traps with bulky parts. Researchers studying species that are notoriously difficult to catch, or that live in more urban environments, may not be able to use well-known and relatively safe trapping methods such as mist nets or walk-in traps. A less frequently used, but often more discreet option is a bownet. This method has been used primarily for larger species such as raptors, or ducks on the nest^{1,2}. However, we are not aware of documentation of the potential hazards of this method, or how to modify it for consistently safe deployment, especially for smaller birds.

AIM: to share the bownet safety modifications we developed to trap wild great-tailed grackles (*Quiscalus mexicanus*), a medium-sized, agile passerine.

Risks

1. Bird gets struck by moving bow
2. Other birds in the way
3. Human error in deployment

Solutions

1. Add foam piping and trap bird at specific location in bow area (Fig 4)
2. Trap one bird at a time with no other birds within 3ft of trap area
3. Use only the remote trigger to deploy after extensive training, and follow a detailed protocol³



Fig 3. Bownet **before** modifications with banded grackle (left) and taxidermic decoy grackle (right).

Fig 4. Bownet **after** modifications (foam and trigger box) with grackle in the correct trapping position.



Fig 1. Taxidermic decoy grackle in ideal trapping position: head down with feet ~1in from bowl (6.5in diameter).

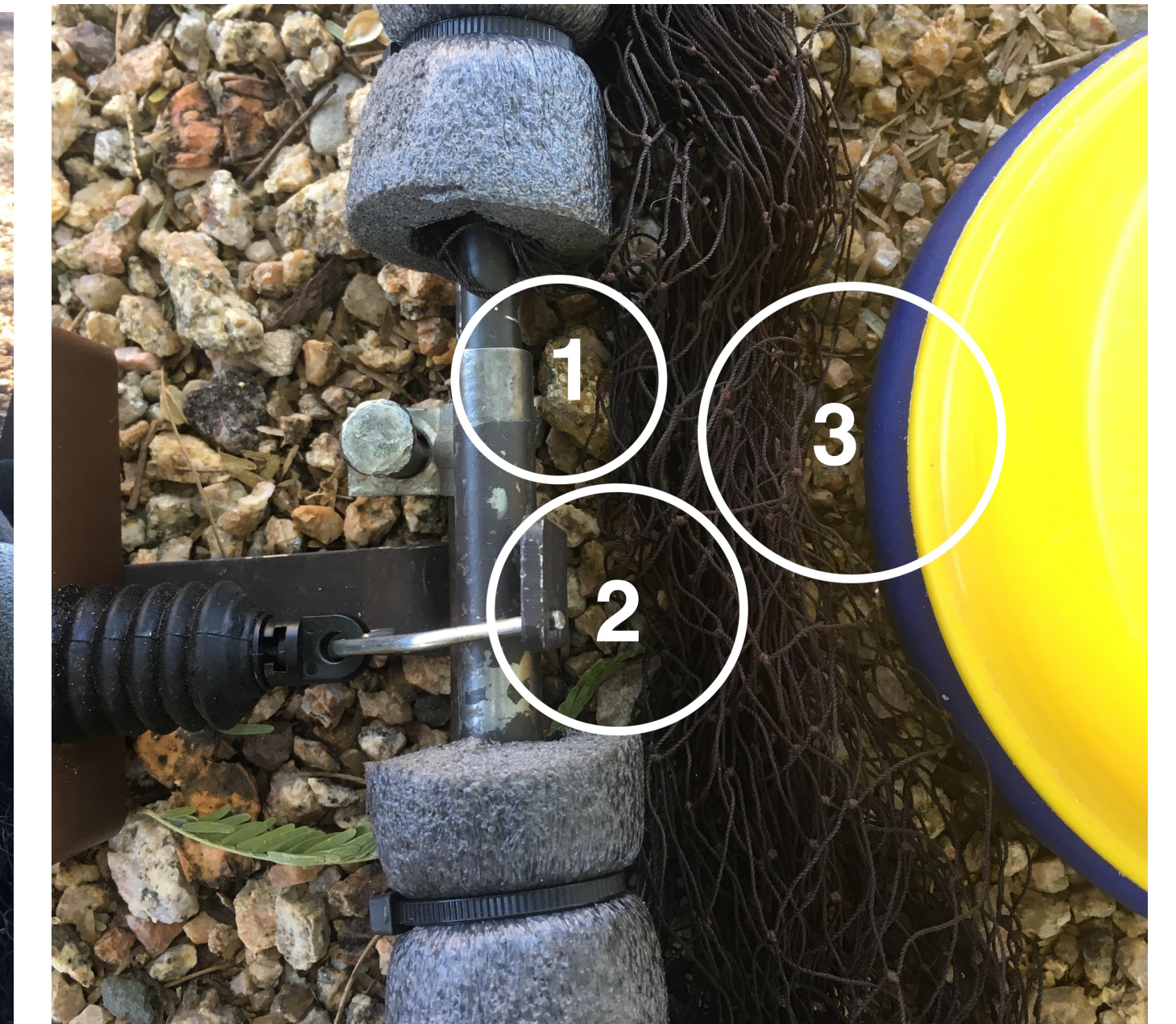


Fig 2. Proper bowl placement inside bow with netting clear of metal stakeholder (1) and trigger pin (2), and bowl as close to bow as possible without touching netting (3).

Discussion

We found it necessary to modify the bownet and the protocol for how it is used to prevent injury to grackles. These modifications resulted in reduced trapping efficiency and increased bird safety. No grackles have been injured since implementing these safety features, and as of May 2019 it is our most successful trapping method (28 birds caught vs. 26 birds with mistnets, 0=carpet noose, 3=walk-in traps). The modifications did not appear to require a rehabilitation period, however it is rare for a single grackle to be in the ideal trapping position (Fig 1).

We believe it is important for researchers to consider incorporating these or similar modifications when using the bownet with smaller, agile birds. Broadly, we encourage more open publication of modifications to increase trapping safety across research programs.

References:

¹Stewart, Robert E., et al. 1945. Live Trapping of Hawks and Owls. *J Wildlife Manage* 9(2):99-104.

²Salyer, James W. 1962. A Bow-Net Trap for Ducks. *J Wildlife Manage* 26(2):219-221.

³Our bownet deployment protocol and this poster are available at <https://tinyurl.com/y496ppok>

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