

# Ursidae: The Undergraduate Research Journal at the University of Northern Colorado

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Volume 8

Number 1 *Research Day 2018 - Undergraduate  
Research Excellence Award Winners & Finalists*

Article 6

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April 2019

## Differential Prey Delivery Rates in Male and Female Rock Wrens as an Indicator of Parental Effort

Ryan Worley

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### Recommended Citation

Worley, Ryan (2019) "Differential Prey Delivery Rates in Male and Female Rock Wrens as an Indicator of Parental Effort," *Ursidae: The Undergraduate Research Journal at the University of Northern Colorado*: Vol. 8 : No. 1 , Article 6.

Available at: <https://digscholarship.unco.edu/urj/vol8/iss1/6>

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## Natural Science Poster

Title: Differential Prey Delivery Rates in Male and Female Rock Wrens as an Indicator of Parental Effort

Presenter: Worley, Ryan

Faculty Sponsor: Pitt, Stephanie

### **Abstract:**

The Rock Wren (*Salpinctes obsoletus*) is a small songbird native to Colorado and many Western states in arid climates. Scientific understanding of these birds is limited, and most knowledge about their behaviors is based on anecdotal evidence. In this study, we aimed to investigate the variability in parental effort between males and females with regards to food delivery to hatchlings. We placed motion-activated field cameras at the entrance of several Rock Wren nest sites to examine parental prey delivery effort. As the birds came and went from their nests, the camera captured time-stamped images that showed exactly which food the birds were bringing back to the nest. Using Adobe Bridge image processing software, we added keyword tags to camera trap pictures in order to quantify the behaviors viewed in the image. These tags were used to determine how often each parent visited the nest and which type of food item they might be bringing to the nest, plus other behaviors, including bringing nesting material to build nests or removing chick fecal sacs to keep nests hygienic. If nest predation occurred, this was also noted. Prey delivery effort was determined by looking at the first five days after chicks were estimated to have hatched to standardize measurements across nests. Preliminary data suggests that male Rock Wrens deliver more prey items to nestlings than their female mates do. Males were responsible for an average 78.5% of deliveries compared to females' average 18.5%. This study serves as a good starting point toward further understanding of Rock Wren breeding ecology and the implications of prey delivery rate in regards to parental effort.