Antler Casting Phenology and Late-Breeding in Nebraska White-Tailed Deer

Poster · February 2021

DOI: 10.13140/RG.2.2.22391.34723

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Antler Casting Phenology and Occurrence of Late-breeding in Nebraska White-tailed Deer

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INTRODUCTION

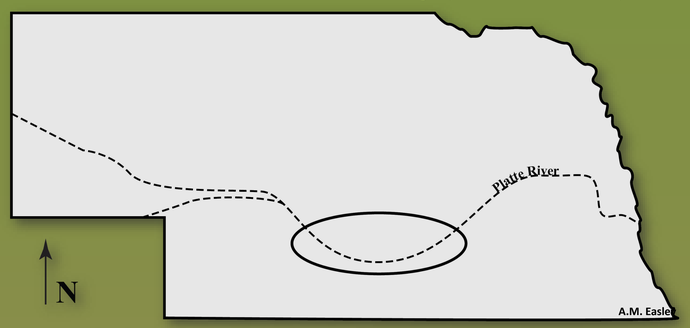
- Antler casting can be variable, influenced by a variety of factors (e.g., photoperiod, geography, sex ratios, hormone levels and body condition).
- In Nebraska, WTD primarily breed in November, but this season extends into December and January for unfertilized females and healthy fawns reaching appropriate weight.
- Documented historical antler casting timeframes in Nebraska are inconsistent: Dec-Jan, Jan-Feb, Jan-May…...

OBJECTIVES

1) Document observations of early and late antler casting
2) Establish a baseline for antler casting phenology
3) Describe a seasonally late-breeding observation within the central Platte River valley

METHODS

- Our study area is best described as the big bend reach of the central Nebraska Platte River Valley (2009-Present).

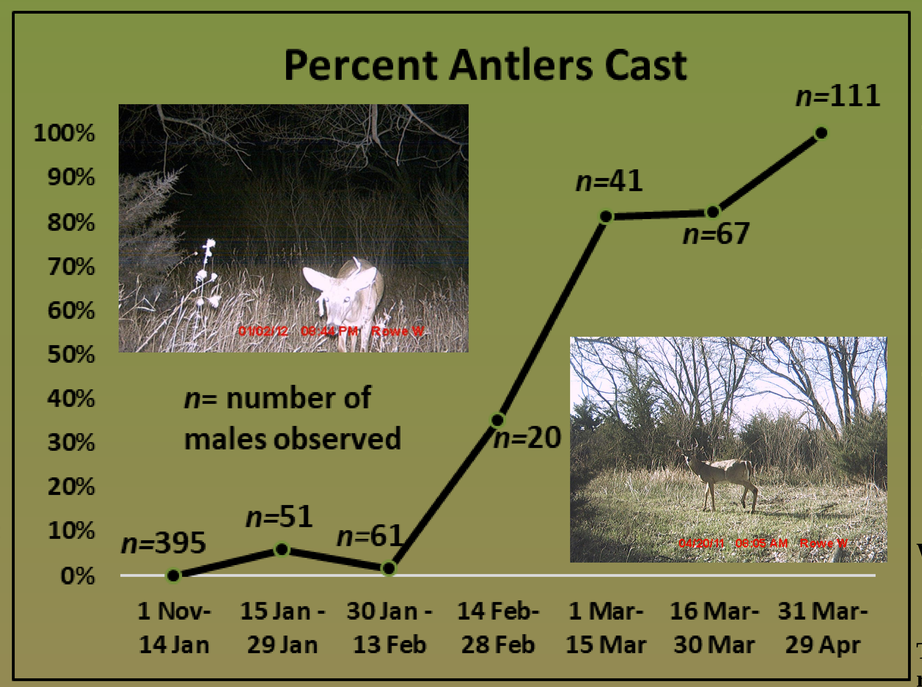


- We compiled opportunistic and systematic observations to quantify antler casting timeframe for this region.
- Records of cast antlered males and fresh antler casts were used to develop a conservative casting timeframe.
- We investigated regional camera trap captures to determine cast antler phenology between November and April.
- Additionally, we detailed late-breeding and late antler casting by a male WTD in this region.

RESULTS

- Several cast antlers were observed (harvested or collected) in early January with the earliest cast collected 21 Dec 2020.
- Late antler casting was observed by four males (≥2.5-yr-olds) after 14 Apr, the latest observation occurring 20 Apr 2011.
- 22.3% of freshly cast antlers contained pedicle blood (77/346).
- Average collection date of casts with pedicle blood was 4 days earlier (9 Mar) than non-bloody (13 Mar) pedicle casts (*P*=0.03).

- Based on our camera capture effort, the mean casting timeframe occurred the first fifteen days of March with 81% of males casting both antlers, and 99% of antlers cast by the start of April.



Late-Breeding Observation (Figures below)

- We observed a mature male mounting and copulating with a young female on 5 April 2019.
  - The following morning, we observed the same male scenting checking and chasing a group of young females.
- Video and pictures revealed protracted and enlarged testes.
- This individual retained his antlers until a least April 14th.

DISCUSSION

- We determined that casting timeframe was broad, and later, on average than previously documented for this region.
- We can only speculate on causality of the late-breeding and antler casting observations (estrous female/elevated test.)
- Our observations serve as a baseline for future spatial and temporal comparisons and may assist state biologists and property managers as they assess future regulations.

ACKNOWLEDGMENTS

We thank the landowners and organizations that permitted access during or study:

The Animal Care and Use Committee at the University of Nebraska at Kearney reviewed and approved for field study exemption (IACUC #090821).