Ketterson / Nolan Research Group Collection

This document is part of a collection that serves two purposes. First it is a public archive for data and documents resulting from evolutionary, ecological, and behavioral research conducted by the Ketterson-Nolan research group. The focus of the research is an abundant North American songbird, the dark-eyed junco, *Junco hyemalis*, and the primary sources of support have been the National Science Foundation and Indiana University. The research was conducted in collaboration with numerous colleagues and students, and the objective of this site is to preserve not only the published products of the research, but also to document the organization and people that led to the published findings. Second it is a repository for the works of Val Nolan Jr., who studied songbirds in addition to the junco: in particular the prairie warbler, *Dendroica discolor*. This site was originally compiled and organized by Eric Snajdr, Nicole Gerlach, and Ellen Ketterson.

Context Statement
This document was generated as part of a long-term biological research project on a songbird, the dark-eyed junco, conducted by the Ketterson/Nolan research group at Indiana University. For more information, please see IUScholarWorks (https://scholarworks.iu.edu/dspace/handle/2022/7911).

PRIMARY GOALS FOR 1991

This is a restatement of our objectives designed for June 1991, when we will be working with a reduced number of people in a year when there is lots of work to be done!

First let's note a few of our accomplishments:

1. Established an experimental study area with T-males and C-males and other control-control areas with unimplanted males.

2. Carry out a number of focal males watches on T- and C- males in spring (see grant proposal).

3. Collected transmitter data on home ranges of 4 T-males or C-males at various stages of reproduction (see grant proposal).

4. Collected many DNA samples from adults and nestlings in both study areas (see grant proposal).

5. Monitored demographics of population including rates of return by sex and age classes, site fidelity, population size, etc. Summarized return rates of males whose implants were left in at the end of the breeding season in 1990. Collected data that will allow us to document the changing composition of the population as the spring progresses, e.g., how the sex-age structure varies with date in early spring?

6. Established many new procedures for keeping up with the data including new summary sheets for fledgling survival, nest watches, and up-to-date lists of all our banded birds.

IN SUM, WE ARE GREAT.

REMAINING GOALS, IN ORDER OF PRIORITY BASED ON THE PROMISES WE HAVE MADE TO THE NSF AND OUR ABILITY TO DO THE WORK WITH THE STAFF WE HAVE

1. Measure relative fledgling survival, including information on number fledglings on day 11 and timing of fledging (fledging day).

2. Collect DNA samples from family members, territorial adults without families, and any floating male adults.

3. Compare testosterone levels in T-males, C-males, and, especially, control-control males caught off the study area. Collect blood to determine whether corticosteroid binding proteins are higher in T-males than in controls.

4. Weights and tarsi of nestlings at days 0, 3, 6.

5. Transmitter data on male movements during incubation and nestling stages.

6. Weights (tarsi, and wing lengths too) of adults at time when young used to fledge, i.e., day 11, females *and males*.

7. Observe behavior of T-males and controls toward fledglings.

ADDITIONAL GOALS FOR 1991

8. Responses of T and control males to chipmunk balls.

9. Determine whether dominance relations between the sexes differ according to treatment of the male using meal worms as bait near active nests.

10. Quantify effect of male treatment on begging calls of young in nests of T- and C-pairs. Try to verify experimentally the effects of the implants on male responsiveness to begging calls. (see if males differ in locomotor activity in a cage when played begging calls?) (Mess around with the idea that females are feeding in response to male song rates?) Make another valiant attempt to measure load size?

11. Perfect methods for measuring sperm, coccidial oocysts, and white blood cells (work with captives).

12. Determine effect of T-implants on incubation by male solitary vireos; also blood samples from this species.

13. Quantify habitat in order to determine what attracts juncos and determines their density.

FINALLY, PLEASE RE-READ GOALS FOR APRIL 1991 TO REMIND YOURSELF OF

CERTAIN PROCEDURES AND CAUTIONARY NOTES.