

APPENDIX 2

Adaptation to basic Fortran-IV

The following program modifications are required for computers with a basic FORTRAN-IV compiler:

1. Replace card 9 with:
INTEGER HEAD, DOT
2. Remove card 10.
3. Insert the following card between cards 35 and 36:
READ (IREAD, 2) IAL, DOT, NOUGHT
4. Replace card 36 with:
READ (IREAD, 2) (HEAD(I), I = 1,20)
5. Remove cards 41 and 42 and replace with:
60 CONTINUE
6. Replace card 96 with:
8 WRITE (IPUNCH, 2) (IC(J), J = 1,M)
7. The first card in the data deck must be punched as follows:
ALUM. . . .

This card is in addition to the other data cards described earlier.

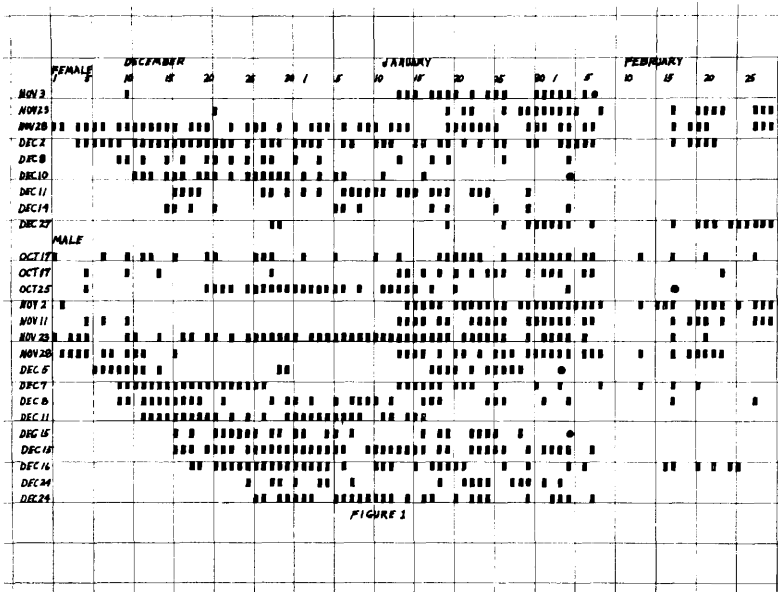
The author thanks the staff of the Computer Centre of the University of Otago for their help and cooperation in testing this version on their IBM-360/30.

RED-WINGED BLACKBIRDS WINTERING IN A DECOY TRAP

By HAROLD E. BURTT AND MAURICE L. GILTZ

We have operated a large decoy trap on the University Farm in Columbus, Ohio, since 1963. It is a common occurrence for a banded bird to re-enter the trap, i.e., "repeat" many times in the course of a few weeks (Burtt and Giltz 1970a). Such behavior in winter is infrequent. However, we had 15 Cowbirds (*Molothrus ater*) "winter" in the trap in 1965-66. A similar phenomenon with Redwings (*Agelaius phoeniceus*) in the winter of 1970-71 is reported herewith. There was little snowfall until early February and we were able to operate the trap daily.

Figure 1 presents the data for 25 Redwings selected from our log because of their substantial number of repeats in December and January. The rows indicate individual birds and the columns the dates. A small rectangle shows the date on which a particular bird was recorded as a repeat. A circle means that the bird was found dead. The date when a bird was banded appears at the left of its row. For example, the first female listed was banded November 3, repeated on December 10, January 13, 14, 15, etc., and was found dead on February 6.



Red-winged Blackbirds wintering in a Decoy Trap.

We include data for December 1 through February 28, which is essentially the period of winter residents. Borror (1950) gives the average date of departure of Redwings from Central Ohio as November 22 and the average date of return as March 3. The trap was not operated from February 8 to 11 because of heavy snow but food was kept available in the trap.

Figure 1 shows the wintering tendency quite clearly. In the 3-month period the 25 birds accounted for 744 repeats. One bird repeated 54 times and another 52. One bird was logged on 19 consecutive days and another on 18.

If we had complete data on each bird the results would be still more impressive. Unfortunately, when the birds are driven across the trap and down a tapering runway to the gathering cage some of them double back and pass the operator in the runway and some avoid the runway altogether. It is our impression that this tendency increases as the birds have more experience in the trap. They do not

"scare" as readily. If a bird is captured for example, on Monday and Thursday, it may have gone elsewhere when released on Monday and not returned to the trap until sometime Thursday. Or it may have re-entered the trap immediately upon release on Monday, but avoided capture until Thursday. Insofar as the latter alternative prevails, we are underestimating the bird-days in the trap.

Inspection of Figure 1 suggests that there may be different patterns of wintering in the trap such as: (1) present every few days throughout the period, (2) present now and then but presumably in the vicinity, and (3) present early and late in the period. However, these patterns are subject to the limitation noted above, viz, the frequent avoidance of capture when actually in the trap. It is possible that birds in pattern two (supra) spend as many days in the trap as birds in pattern one, but are less frequently captured.

Our data do not indicate any sex differences. The average male repeats 31 times and the average female 27, but the difference is not significant ($p = .40$). The fact that our sample includes 16 males and 9 females merely reflects the normal sex ratio for this species (Burt and Giltz 1970b).

It should be noted that our sample is not drawn from a large population wintering in the area. The Audubon Society Christmas bird counts of Redwings in the Columbus area for the years 1964 to 1970 are respectively 1, 12, 0, 8, 16, 7, and 29, with an average of 10. This suggests that the birds in Figure 1 are not birds that would have been here, but instead, developed habits of feeding in our trap and thus remained for the winter. We believe that the act of entering the trap is reinforced immediately by the food (cracked corn) used as bait and of course, reinforcement is a major factor in a learning situation.

If our trap had not been available, most of these birds presumably would have migrated. As it was the trap habit dominated the tendency to migrate. A few of these Redwings continued to frequent the trap throughout March and even into mid-April. The effect of this behavior on breeding success is problematical.

LITERATURE CITED

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