SEX RATIOS OF BIRDS KILLED IN ONE NIGHT DURING SPRING MIGRATION IN MANITOBA, SPRING 1983

SPENCER G. SEALY, Department of Zoology, University of Manitoba, Winnipeg, Manitoba. R3T 2N2

Analyses of migrating birds killed at night in collision with tall, lighted structures, either on single nights or over entire migration periods, have contributed to our understanding of many aspects of avian migration.[1 2 4 9 10] Large, single samples of birds so killed during the spring migration have been reported infrequently, especially in western Canada.[5] About 150 passerine birds were killed during inclement weather on 22 May 1974 when they struck a glass wall that joins two apartment blocks in Winnipeg, Manitoba. Most of the birds in that sample were Tennessee Warblers, and I reported on them elsewhere.[7] At the same apartment block, during the night of 19-20 May 1983, 120 passerine birds and one hummingbird were killed. These specimens are analyzed in the present report.

Table 1. SPECIES AND SEX RATIOS OF BIRDS WINDOW-KILLED ON THE NIGHT OF 19/20 MAY 1983, WINNIPEG, MANITOBA.

Species	*Number in sample*	*% of sample*	*% males*
Ruby-throated Hummingbird	1	0.8	100.0
Least Flycatcher	4[a]	3.3	50.0
Gray-cheeked Thrush	1	0.8	0.0
Swainson's Thrush	6	5.0	66.7
Tennessee Warbler	14	11.6	85.7
Orange-crowned Warbler	6	5.0	0.0
Nashville Warbler	5	4.1	100.0
Yellow Warbler	2	1.7	50.0
Cape May Warbler	2	1.7	50.0
Yellow-rumped Warbler	30	24.8	50.0
Palm Warbler	15	12.4	33.3
Blackpoll Warbler	2	1.7	100.0
Black-and-white Warbler	9	7.4	0.0
American Redstart	2	1.7	100.0
Ovenbird	15	12.4	40.0
Northern Waterthrush	1	0.8	100.0
Common Yellowthroat	1	0.8	100.0
Wilson's Warbler	1	0.8	100.0
Chipping Sparrow	3	2.5	33.3
White-throated Sparrow	1	0.8	0.0
Totals	121	101.1	

[a]The Least Flycatchers were retained as voucher specimens (University of Manitoba Zoology Museum numbers 2372-5).

The specimens, salvaged by Daniel M. Guinan on the morning of 20 May 1983 following several days of below-normal temperatures in southern Manitoba,[11] were bagged, frozen, and later identified and sexed by dissection.

The sample contained 121 birds of 21 species, consisting of 1 hummingbird and 20 species of passerines (Table 1). The sample is dominated (61.2% of total number of individuals) by four of the most abundant species of warblers that migrate in spring through southern Manitoba — Tennessee, Yellow-rumped and Palm warblers, and Ovenbird.[8] Of these four species, females predominated in the Palm Warbler (67%) and Ovenbird (60%), males dominated the Tennessee Warbler (86%) and both sexes occurred equally in the Yellow-rumped Warbler. Interestingly, males comprised 71.8% of the 71 Tennessee Warblers in the sample salvaged in May 1974.[7]

In a study of the spring migration patterns of 18 species of wood warblers (Parulinae) in Ontario, Francis and Cooke showed that males arrived earlier than females in all species.[3] They found also that the difference in the mean arrival dates between the sexes was greatest in the species which arrived earliest. There is a hint of the segregation of sexes in the small sample of birds killed in late May, 1983, in Manitoba. Of the four species which arrive earliest in spring in central Manitoba, all of the Orange-crowned and Black-and-white warblers killed were females, two-thirds of the Palm Warblers were females, but only half of the Yellow-rumped Warblers were females. All of the five Nashville Warblers, a later migrant, were males. The date these birds were killed coincided with the latter part of the migration period of these species.[6 8]

Acknowledgments

Daniel M. Guinan salvaged the specimens upon which this report is based. Keith A. Hobson commented on a draft of the manuscript.

[1]AVERY, M.L., P.F. SPRINGER and J.F. CASSEL. 1977. Weather influences on nocturnal bird mortality at a North Dakota tower. *Wilson Bull.* 89:291-299.

[2]CRAWFORD, R.L. 1981. Bird casualties at a Leon County, Florida TV tower: a 25-year migration study. Bull. Tall Timbers Res. Station 22:1-30.

[3]FRANCIS, C.M. and F. COOKE. 1986. Differential timing of spring migration in wood warblers (Parulinae). *Auk* 103:548-556.

[4]GOODPASTURE, K.A. 1963. Age, sex, and wing length of tower casualties: fall migration, 1962. *Bird-Banding* 34:191-199.

[5]HATLER, D.F. and R.W. CAMPBELL. 1975. Notes on spring migration, including sex segregation, of some western Savannah Sparrows. *Syesis* 8:401-402.

[6]McNICHOLL, M.K. 1970. Warbler migration in Manitoba. *Zoolog* 11:17-19.

[7]SEALY, S.G. 1985. Analysis of a sample of Tennessee Warblers window-killed during spring migration in Manitoba. *N. Am. Bird Bander* 10:121-124.

[8]SEALY, S.G. Unpublished data.

[9]TAYLOR, W.K. 1973. Black-throated Blue and Cape May warblers killed at a central Florida TV tower. *Bird-Banding* 44:258-266.

[10]TORDOFF, H.B. and R.M. MENGEL. 1956. Studies of birds killed in nocturnal migration. Univ. Kansas Publ., Mus. Nat. Hist. 10:1-44.

[11]WEATHERHEAD, P.J., S.G. SEALY and R.M.R. BARCLAY. 1985. Risks of clustering in thermally-stressed swallows. *Condor* 87:443-444.