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Carl D. Barrentine

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Comparison of Recapture Frequencies for Dusk- and Night-Released Gambel's White-crowned Sparrows at a Winter Roost

Carl D. Barrentine
Department of Biology
California State University
Bakersfield, CA 93311-1099

INTRODUCTION

Gambel's White-crowned Sparrows (*Zonotrichia leucophrys gambelii*) are banded in sizable numbers annually (Western Bird Banding Association 1990:114). Most are captured during daylight hours, either as migrants or winter residents, at feeding stations. Some are captured at dusk when winter residents assemble at roosts (Barrentine 1990).

Roosts, like feeding stations, are foci for bird aggregations; hence, large numbers can be captured rather efficiently. Capturing large numbers of birds at dusk can be problematic if birds cannot be processed and released before dark. Ordinarily, one might hold birds overnight and release them the next morning. However, this option may be difficult to implement when banding at remote roosts. The alternative is to release birds at night. Should one release birds at night? If so, is the risk of mortality increased for night-released birds?

This study compares recapture frequencies for dusk- and night-released sparrows at a winter roost. I assume that the probability for recapture is the same for both dusk- and night-released birds, and that recapture frequency is an index of survivorship. Thus, if recapture frequencies for dusk- and night-released birds are the same, then survival is not affected by the time of release.

METHODS

Gambel's White-crowned Sparrows were mist-netted at a winter roost 9.6 km ESE of Simmler (San Luis Obispo County), California (lat-long 352-1195, 640 m elevation). The roost site consisted of an isolated stand of mature quail brush (*Atriplex lentiformis*) surrounded by fallow fields of annual grasses.

Reported here are recapture frequencies for sparrows that were captured, banded and released, either at dusk or at night, on one of four dates: 4 December 1990, 12 and 28 January 1991 and 8 February 1991. Dusk-released birds included those that were released in the vicinity of the roost (< 30 m) within one half hour after sunset. Night-released birds included those that

were released at the roost, by flashlight, between one and three hours after sunset. All birds were held in individual cloth bags between the time of capture and release.

Recaptures included those birds that repeated at least once in the same season and at the same location during one or more of eight biweekly netting sessions, beginning 30 December 1990 and ending 12 April 1991. Recapture frequencies for dusk- and night-released sparrows were compared using Chi-square analysis of 2 x 2 contingency tables.

RESULTS AND DISCUSSION

Immatures and Adults. -- A total of 132 birds were banded and released in this study. Of 48 dusk-released birds, 23 (or 47.9%) were recaptured in subsequent netting sessions. Of 84 night-released birds, 44 (or 52.4%) were recaptured. Recapture frequencies for both samples were similar ($X^2 = 0.08$, $df = 1$, NS).

Immatures. -- A total of 58 immatures were banded and released. Of 23 dusk-released immatures, 10 (or 43.5%) were recaptured in subsequent netting sessions. Of 35 night-released immatures, 17 (or 48.6%) were recaptured. Recapture frequencies for immature samples were similar ($X^2 = 0.05$, $df = 1$, NS).

Adults. -- A total of 74 adults were banded and released. Of 25 dusk-released adults, 13 (or 52.0%) were recaptured in subsequent netting sessions. Of 49 night-released adults, 27 (or 55.1%) were recaptured. Recapture frequencies for adult samples were similar ($X^2 = 0.02$, $df = 1$, NS).

The data indicate that there is no statistically significant difference between recapture frequencies for dusk- and night-released Gambel's White-crowned Sparrows. Assuming that the probability for recapture is the same, for both dusk- and

night-released birds, and that recapture frequency is a measure of survival, then the time of release did not affect the survival of sparrows at a winter roost.

ACKNOWLEDGMENTS

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LITERATURE CITED

- Barrentine, C.D. 1990. Roost site tenacity in Gambel's White-crowned Sparrows. *N. Am. Bird Bander* 15:134-135.
- Western Bird Banding Association. 1990. Annual Report. *N. Am. Bird Bander* 15:107-122.

Books

Bird Trapping and Bird Banding. Hans Bub. Translated by Frances Hamerstrom and Karin Wuertz-Schaefer. 1991. Cornell Univ. Press, Ithaca, NY. 330 pp. \$69.50.

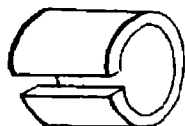
This is a translation of the 1978 German edition, an update of some of the group of books reviewed by F.S. Schaefer in *North American Bird Bander* 6:116-117, 1981.

Most of the book covers the wide variety of capture techniques used by banders, with sections on traps ranging in size from one cell to Helgoland. Netting is covered extensively including a chapter by Clive Minton on cannon netting. Since most of the references in the book are from the Old World literature, the review by Keyes and Grue (*NABB* 7:2-14, 1982) on mist netting techniques nicely complements it, and references to other capture techniques in *NABB* are not apt to be in Bub's book. The book also includes descriptions of lure techniques, but the foreword by George Jonkel should be consulted for the legality in the USA of methods involving live or stuffed birds. Canadian readers should consult the Bird Banding Office in Ottawa.

As mentioned in Schaefer's previous review, this volume is a valuable resource for any bander or collector interested in exploring different capture techniques. A detailed table of contents enables the reader to locate an appropriate section of the book easily.

Robert C. Tweit

NOTE: Because of the importance of this book to banders, many of whom will have joined EBBA, IBBA, or WBBA after 1981, a longer review by Dan Kramer will appear in a forthcoming issue. MKM



Whistling Wings: The Dove Chronicles. H. Elliott McClure. 1991. Boxwood Press, Pacific Grove, CA. vi + 99 pp. \$9.95.

In this soft cover booklet, McClure presents numerous incidents in the lives of Mourning Doves, mostly in Iowa and California. Although many of the details featured represent the unusual (e.g., three-egg clutch, odd nest sites, parasitism by Yellow-billed Cuckoo), they are presented against a background of more usual dove biology, gleaned from McClure's study of over 5000 Mourning Dove nests. The book consists of a foreword by Hope Ryden, a preface by McClure, 15 chapters of "stories," a postscript, an appendix on the Latin name of the Mourning Dove, and a list of suggested readings. The bulk of the text is presented in the form of anthropomorphic tales.

Although most readers of *NABB* will no doubt wonder why a review copy of an anthropomorphic nature book would be sent to a banding journal, one discovers very early in the book that most of McClure's stories are based on band recoveries (in Mexico, Nicaragua, and the U.S.A.), and many of the details of mate and nest-site fidelity over the years could be determined only on banded birds. The bander who appears in many of the stories is clearly McClure himself. Furthermore, part of the postscript is devoted to a plea to report banded birds. While much of the book thus promotes the value of banding, I found it rather odd that incidents of premature fledging caused by the bander were not accompanied by an appropriate critical caution about timing banding visits to avoid such incidents.

An evaluation of this book is made difficult by the difficulty in deciding to what audience it is best suited. Its anthropomorphic story style suggests a readership of young children; whereas the detailed findings, criticisms of hunting practices and the appendix on the origins of the Latin name all seem beyond childhood level. Its fictional style, unfortunately, precludes its many interesting incidents from being cited in the scientific literature. Nevertheless, McClure obviously speaks with authority, and errors are restricted to the use of some older names and such proof-reading lapses as Bluejay, stostone s, en masse, and several scattered letters lost in mid-sentence.

Martin K. McNicholl