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PREDATION OF RED-WINGED BLACKBIRD NESTS BY MINK

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Actual acts of predation on avian nests, particularly by mammals that are primarily nocturnal foragers, are seldom witnessed by human beings (Pettingill 1976). There is, therefore, little reliable documentation of the appearance of destroyed nests and their contents (Darrow 1938, Rearden 1951, Baker 1978). Reliable identification of nest predators after the event can influence conclusions drawn from nesting studies. We witnessed four cases of mink (*Mustela vison*) preying on Red-winged Blackbird (*Agelaius phoeniceus*) nests in "Class of 1912" marsh, Madison, Wisconsin. We were able to document the responses of the blackbirds to the mink(s), as well as nest appearance following predation.

The four acts of predation occurred between 14:30 and 15:03, two on 1 June and two on 2 June 1983. We were between 10 and 20 m from the nests during the events. We were able to observe the female's behavior before the mink's arrival at only one nest. Here, she was brooding young and began calling when the mink was at the base of the vegetation that supported the nest. At the three nests where we witnessed the entire act of predation, the instances lasted between 3 and 6 min. One or more blackbirds continued calling at the nests for up to 10 min following predation. The four nests were in separate male territories, all within 200 m of each other. Three nests contained young (two or three young up to 4 days old), and two of these each had one unhatched egg, while the fourth nest had four eggs. All nests were in cattails (Typha spp.) and ranged in height from 78 to 85 cm. Two nests were over dry ground and two were over water (13 and 30 cm deep). All nests were located from 2 to 11 m from the marsh's edge.

In three of the four plunderings, the female attending the nest was the first to utter calls. In each instance, the first calls were "screams" (see Orians and Christman 1968 for description of calls). At the fourth nest, we witnessed the final 30 s of the event so we do not know if "screams" were emitted. Following the initial "screams," females gave mostly "checks" with occasional interspersed "screams." Male blackbirds uttered almost exclusively "checks," interspersed with occasional "cheer" calls.

In each case, after the female had screamed, other Redwinged Blackbirds appeared almost immediately and began mobbing the mink. Between three and nine males, and three and five females were involved in this mobbing. One Common Grackle (*Quiscalus quiscula*) participated in the mobbing at two nests. Mobbing blackbirds either hovered over or perched near (3–10 m) the nests. The closest any blackbird approached the mink was approximately 30 cm; however, most birds were usually within 1–5 m of the mink. Males appeared more aggressive than females in defending the nests, approaching closer to the mink and hovering more intensely.

Examining the nests afterward, we found them intact and apparently undisturbed. Cattails supporting the nests were neither bent nor broken. In the three nests that had contained eggs, there remained small (2–4 mm in diameter) eggshell fragments with chewed edges. This finding agrees closely with Rearden's (1951) description of mink predation of waterfowl nests. Nests lacking eggshell fragments do not appear to differ from those plundered by birds or snakes (see Best 1978, Best and Stauffer 1980 for discussion and references), which indicates that caution should be used when identifying nest predators based solely on nest appearance.

Our observations are in agreement with Orians and Christman (1968:41), who described the "scream" call as having tremendous drawing power. "Checks," the call emitted most frequently during mobbing, are easy-to-localize calls (sonogram in Orians and Christman 1968:39, Brown 1982), which enhance the conspicuousness of mobbing blackbirds. Intense mobbing by conspicuous birds is thought to confuse and distract potential predators of blackbird nests (Horn 1968).

The blackbirds' nest defense was ineffective against preying mink. They never dove at or hit the mink but only hovered or perched nearby. Our observations agree with those reported in other studies (e.g., Kruuk 1964, Patterson et al. 1980, Buitron 1983), which showed that nest defense response depends in part on the danger the predator poses to the adults. Marsh-inhabiting mink can prey heavily on passerines in summer (Hamilton 1940; Stollberg and Hine 1952; Sargeant et al. 1973, pers. observ.), and, therefore, probably pose a serious threat to adult Redwinged Blackbirds.

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LITERATURE CITED

- BAKER, B. W. 1978. Ecological factors affecting wild Turkey nest predation on south Texas rangelands. Proc. Annu. Conf. Southeast Assoc. Fish Wildl. Agencies 32:126-136.
- BEST, L. B. 1978. Field Sparrow reproductive success and nesting ecology. Auk 95:9–22.
- BEST, L. B., AND D. F. STAUFFER. 1980. Factors affecting nesting success in riparian bird communities. Condor 82:149-158.
- BROWN, C. H. 1982. Ventriloquial and locatable vocalizations in birds. Z. Tierpsychol. 59:338–350.
- BUITRON, D. 1983. Variability in the responses of Blackbilled Magpies to natural predators. Behaviour 39: 209-235.
- DARROW, R. 1938. Possibilities of recognizing the evidence of predation and the species involved in the remains of grouse and grouse nests found destroyed. Trans. No. Am. Wildl. Nat. Resour. Conf. 3:834-838.
- HAMILTON, W. J., JR. 1940. The summer food of minks and raccoons on the Montezuma Marsh, New York. J. Wildl. Manage. 4:80-84.
- HORN, H. S. 1968. The adaptive significance of colonial nesting in the Brewer's Blackbird. Ecology 49:682– 693.
- KRUUK, H. 1964. Predators and anti-predator behaviour of the Black-headed Gull *Larus ridibundus* (L). Behaviour Suppl. 11:1-129.
- ORIANS, G. H., AND G. M. CHRISTMAN. 1968. A comparative study of the behavior of Red-winged, Tricolored, and Yellow-headed blackbirds. Univ. of California Press, Berkeley.
- PATTERSON, T. L., L. PETRINOVICH, AND D. K. JAMES. 1980. Reproductive value and appropriateness of response to predators by White-crowned Sparrows. Behav. Ecol. Sociobiol. 7:227–231.

PETTINGILL, O. S., Jr. 1976. Observed acts of predation in northern lower Michigan. Living Bird 15:33-41.

REARDEN, J. D. 1951. Identification of waterfowl nest predators. J. Wildl. Manage. 15:386-395.

SARGEANT, A. B., G. A. SWANSON, AND H. A. DOTY. 1973. Selective predation by mink, *Mustela vison*, on waterfowl. Am. Midl. Nat. 89:208-214.

STOLLBERG, B. P., AND R. L. HINE. 1952. Food habits

of Ruffed Grouse, pheasant, quail and mink in Wisconsin. Tech. Wildl. Bull. No. 4, Wisconsin Conservation Department, Madison, WI.

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NEWS AND NOTES

For advice about submitting items for this section, please see Information for Contributors (Condor 87:161).

STUDIES IN AVIAN BIOLOGY

The editorial board has been expanded for this monograph series, published by the Cooper Ornithological Society and now edited by F. A. Pitelka. Continuing members are Joseph R. Jehl, Jr., and Dennis M. Power. Newly appointed are Carl E. Bock (University of Colorado, Boulder); Jared Verner (U.S. Forest Service, Fresno, CA); and Carol M. Vleck (University of Arizona, Tucson).

C.O.S. 1986 MEETING

The Society's annual meeting of **1986** will be held in early September at the University of California, Davis. An exciting program is being planned. Members with suggestions for symposia or activities are requested to contact the Local Chairman, Dr. Charles van Riper, Division of Environmental Studies, University of California, Davis, CA 95616.

JOINT MEETING OF THE COLONIAL WATERBIRD GROUP AND PACIFIC SEABIRD GROUP

A joint meeting of PSG and CWG will be held 4–8 December 1985 at the San Franciscan Hotel in San Francisco, CA. Two symposia will be held, "Recent advances in gull research," and "The use of man-modified vs. natural wetlands by waterbirds and shorebirds." Scientific paper sessions will be held 5–7 December, with field trips on the 8th. For information about the meeting contact Program chairpersons: Ms. Lora Leschner (PSG), Washington Dept. of Game, 16018 Mill Creek Blvd., Mill Creek, WA 98012, (206) 774-8812; or Dr. William Southern (CWG), No. Illinois Univ., Dept. of Biological Sciences, DeKalb, IL 60115, (815) 753-7140.

AVIAN NOMENCLATURE

The International Commission on Zoological Nomenclature hereby gives six months notice of the possible use of its plenary powers in the following case, published in the *Bulletin of Zoological Nomenclature* (Vol. 41, part 4; 30 November 1984) and would welcome comments and advice on it from interested zoologists.

Case No. 2136-THRESKIORNITHIDAE Richmond, 1917 (Aves): application to place on Official List of Family-Group names in zoology and to give precedence over PLATALEINAE Bonaparte, 1838, and other competing Family-Group names.

Correspondence should be addressed to the Secretary (% British Museum [Nat. Hist.], Cromwell Road, London SW7 5BD, England), if possible within six months of the date of publication of this notice.

SEARCH GUIDE FOR ZOOLOGICAL RECORD

BioSciences Information Service (BIOSIS), producer of both the *BIOSIS Previews* and *ZR Online* databases, has announced plans to publish *The Zoological Record Search Guide*, for use with both the print and online versions of *The Zoological Record* (*ZR*). BIOSIS has co-published *The Zoological Record*, the oldest and most comprehensive index to the world's zoological literature, in conjunction with The Zoological Society of London since March, 1980.

The ZR Search Guide will feature a Master Index consisting of all controlled terms from Volumes 115-119 of *The Zoological Record*, corresponding to the literature of 1978-1982 inclusive. In addition, other frequently encountered terms, cross-indexed to their searchable forms, have also been included, bringing the total number of entries in the Master Index to over 15,000. Separate Subject and Systematic Indexes will show all terms in their hierarchical position. Additional Content and Profile Guide Sections will provide details about the scope of ZR, taxonomic nomenclature rules, and techniques for developing effective search strategies.

Priced at \$50.00 U.S. per copy, *The Zoological Record Search Guide* will be distributed in March, 1985. Further information is available from BIOSIS User Services, 2100 Arch Street, Philadelphia, PA, 19103-1399 USA. (215) 587-4800; toll free (800) 523-4806, Telex: 831739.