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## NOCTURNAL MIGRANTS KILLED AT A CENTRAL FLORIDA TV TOWER, AUTUMN 1972

Walter Kingsley Taylor and Bruce H. Anderson

Bird kills at the WDBO-WFTV TV tower near Bithlo, Orange County, have temporarily ceased since the structure collapsed on June 8, 1973. Prior to its collapse, it had been visited regularly during four consecutive autumn migrations. A report of the nocturnal migrants killed during the first three autumns (1969-1971) and a description of the tower and surrounding area have been published elsewhere (Taylor and Anderson, *Wilson Bull.*, 85: 42-51, 1973). Data obtained from the bird kills during the fourth year of study (1972) are presented herein.

### Numbers of Birds Killed

Forty-nine species were represented in the 1347 individuals collected during 36 trips to the facility (Table 1). Common Yellowthroats (*Geothlypis trichas*), Black-throated Blue Warblers (*Dendroica caerulescens*), Ovenbirds (*Seiurus aurocapillus*), and American Redstarts (*Setophaga ruticilla*) made up 72% of the total. Warblers made up 41% of the 49 species and 89% of the 1347 individuals. These data are consistent with those obtained from the first three years.

Birds killed during the four autumn migrations total 9130 individuals of 89 species (Table 2). The smaller number of individuals and fewer species killed in 1972, as compared with each of the other years, is believed to be correlated with fewer severe frontal conditions that reached our area. Species found in 1972 but not found during the 1969-71 kills were: one Yellow Rail (*Coturnicops noveboracensis*), two Ground Doves (*Columbina passerina*), one Common Nighthawk (*Cordeiles minor*), and one Acadian Flycatcher (*Empidonax virescens*). All of these species with the exception of the Acadian Flycatcher are uncommonly reported in kills at tall lighted structures.

We thank the owners of WDBO-WFTV for allowing us to use their facilities. Their cooperation and interest during the past four years have been outstanding.

Department of Biological Sciences, Florida Technological University, Orlando, Florida 32816.

TABLE 1  
 Seasonal Variation of Migrants Killed  
 at the WDBO-WFTV TV Tower; Autumn, 1972

Species	August		September		October		November		Totals
	16-31	1-15	16-30	1-15	16-31	1-15	16-30		
Virginia Rail		1						1	
Sora		2						4	
Yellow Rail				1				1	
Common Gallinule					1			1	
American Coot						1	1	2	
Ground Dove	1				1			2	
Yellow-billed Cuckoo		1		1				2	
Black-billed Cuckoo				1				1	
Common Nighthawk	1							1	
Yellow-bellied Sapsucker					1			1	
Acadian Flycatcher		1						1	
House Wren				4	1			5	
Long-billed Marsh Wren		2	1	8	1	3		15	
Short-billed Marsh Wren					2			2	
Gray Catbird				17	3			20	
Hermit Thrush							1	1	
Swainson's Thrush					1			1	
Veery		5		2				7	
Ruby-crowned Kinglet					1			1	
Solitary Vireo					1	4		5	
White-eyed Vireo						1		1	
Red-eyed Vireo	4		3	1	6			12	
Philadelphia Vireo					26			34	
Black-and-White Warbler	3		11		44			58	
Prothonotary Warbler	1							1	
Swainson's Warbler		1			10			11	
Worm-eating Warbler		4						4	
Northern Parula Warbler		4		47	3	1		55	

TABLE 1--Continued

Species	August		September		October		November		Totals
	16-31	1-15	16-30	1-15	16-31	1-15	16-30		
Yellow Warbler	2	1						3	
Magnolia Warbler				1				1	
Cape May Warbler	18	4		5	7			34	
Black-throated Blue Warbler	13			106	4	2		125	
Yellow-rumped Warbler (Myrtle)					2	6	2	10	
Blackburnian Warbler				1				1	
Yellow-throated Warbler	2			1				3	
Blackpoll Warbler						1		1	
Pine Warbler					2			2	
Prairie Warbler	2	5				1		8	
Palm Warbler				12	6	1		19	
Ovenbird	3	105	3	110	3			224	
Northern Waterthrush	1	12		4				17	
Common Yellowthroat		76	3	374	35	1		489	
American Redstart	2	34	2	88	2	1		129	
Unidentified Warbler		1						1	
Bobolink		17		2				19	
Northern Oriole (Baltimore)				1				1	
Indigo Bunting					1			1	
Savannah Sparrow						3		3	
Grasshopper Sparrow					1	1		2	
Swamp Sparrow					1	3		4	
Total Species	11	21	6	26	22	15	3	49	
Total Individuals	22	322	14	875	80	30	4	1347	

TABLE 2  
 Numbers of Individuals and Species of Birds Killed  
 in Autumn Migration at the WDEO-WFTV TV Tower

Dates	Individuals	Species
Sept. - Dec. 1969	2758	55
July - Dec. 1970	2794	54
Aug. - Dec. 1971	2231	67
Aug. - Nov. 1972	1347	49
Totals	9130	89

## FIELD NOTES

## Singular Brown Pelican Feeding Behavior

On 8 September 1974 an immature Brown Pelican (*Pelecanus occidentalis*) was observed swimming in a shallow freshwater pond located in Panama City Beach, Florida. The bird appeared to be stalking prey hidden in the flowers of the Water Lily (*Nymphaea odorata*).

Open flowers were cautiously approached by the bird; then, with a lunging stab, they were engulfed by the pelican's pouch and plucked from their stems. The pelican proceeded to shake the flower about in its pouch, make several obvious swallowing motions, and then expel the flower.

Prey identification was never possible, but it was fairly apparent that food of some sort was being secured, although animal food could hardly have been present in large amounts. This process was repeated more than half-a-dozen times in the course of 8 to 10 minutes.

As the pelican soon flew off strongly toward the Gulf and then westward along the coast, it is not likely that its singular feeding behavior should be attributed to sickness or injury. During that day, however, Hurricane Carmen had created considerable turmoil in the Gulf; quite possibly the 3 to 5 foot waves then rolling in discouraged the pelican's characteristic plunge-diving and forced it to adopt a different feeding procedure.

Other recent observations (Dinsmore, *Florida Field Naturalist*, 1974:11) have noted that Brown Pelicans may forage while swimming in salt water. The present record not only indicates that pelicans are adaptable enough to utilize fresh water while feeding, but also demonstrates that food sources other than fish may comprise at least a small part of their diet.—Stephen J. Stedman, 1407 East Sixth Court, Panama City, Florida 32401.

## Whip-poor-will Singing in Winter

On 31 December 1973 at dusk near the intersection of the Fellsmere Canal and Lateral Q, Indian River County, Florida, I heard a Whip-poor-will (*Caprimulgus vociferus*) give a series of four or five "whip-poor-wills" from a strip of woods between the far side of the canal and the adjoining pasture.

Nelson, quoted by Tyler in Bent (1940, U.S. Natl. Mus. Bull. 176:179), said that the Whip-poor-will is not in song during the winter in central Florida, but just before it starts northward late in March it sings for a few evenings. Sustained singing after arrival in fall and continuing oc-

asionally as late as mid-November was reported by Robertson and Ogden (1968, Florida region. *Audubon Field Notes*, 22:29). Sprunt (1954, Florida Bird Life, New York, Coward-McCann:259-260) in 17 winters at Okeechobee heard the species only twice, in the same hammock two successive years on 31 January 1949 and 30 January 1950, both warm winters. The temperature was about 83 degrees when I heard the bird sing.--Margaret Coon Bowman, Box 783, Wabasso, Florida 32970.

### Foods of the Osprey at Newnans Lake <sup>1</sup>

Newnans Lake in eastern Alachua County, three miles east of Gainesville, has a high Osprey (*Pandion haliaetus*) population. During the spring and summer of 1972, Ospreys were observed with telescopes and field glasses as they fished there, prey species were identified, and size estimates made of prey.

Thirty-four captures were observed. All prey were fish, 25 (73.5%) of which were Gizzard Shad (*Dorosoma cepedianum*) and Threadfin Shad (*D. petenense*). The remaining nine (26.5%) fish were sunfish (*Lepomis* sp.), Black Crappie (*Pomoxis nigromaculatus*), Large-mouth Bass (*Micropterus salmoides*), or were unidentifiable. The average length of captured prey was about 18 cm with a range of 7.5-35 cm. At least eight (23.5%) captures were of dead or dying fish floating near the surface.

Fishery studies (unpublished) by the Florida Game and Fresh Water Fish Commission revealed that shad make up 34.0% of the fish population in the lake. Threadfin Shad comprise 32.3% and Gizzard Shad 1.7%. The average length of Gizzard and Threadfin Shad taken from Newnans Lake in this fishery studies was 13 and 10.3 cm. respectively.

Ospreys were preying on shad of above-average length at a rate greater than their relative abundance would indicate (even after eliminating from the count those shad picked up as dead or dying). A ratio of 1.1 attempts per capture (excluding those of dead or dying fish) suggests that shad are especially vulnerable to being captured by Ospreys. This is even more apparent when this capture ratio for shad is compared with a ratio of four attempts per capture on another area where the primary prey species was sunfish, *Lepomis* sp.--Stephen A. Nesbitt, Florida Game and Fresh Water Fish Commission, 4005 South Main Street, Gainesville, Florida 32601.

<sup>1</sup>This is a contribution of a Federal Aid Program, Florida Pittman-Robertson Project W-41, Job VII-A-4.

### A *Salmonella typhimurium* Outbreak at a Bird Feeding Station

Unexplained mortality among small passerine birds is frequently reported to the Wildlife Research Projects Office of the Florida Game and Fresh Water Fish Commission. Pesticide poisoning has been suspected in many of these incidents, but chemical analyses have usually failed to reveal pesticide levels sufficient to cause death. Investigation of mortality incidents involving small birds has revealed that at least one infectious disease is an important factor in some die-offs.

A die-off involving birds frequenting a feeding station was reported by Mrs. Howard Pearl at her home near Salt Springs, Marion County, Florida, from 1971 through December, 1973. Species involved were the Blue Jay (*Cyanocitta cristata*), Tufted Titmouse (*Parus bicolor*), Brown Thrasher (*Toxostoma rufum*), House Sparrow (*Passer domesticus*), Red winged Blackbird (*Agelaius phoeniceus*), Common Grackle (*Quiscalus quiscula*), Cardinal (*Cardinalis cardinalis*), Chipping Sparrow (*Spizella passerina*), White-throated Sparrow (*Zonotrichia albicollis*), and Ground Dove (*Columbigallina passerina*). Specimens that could not be examined fresh were frozen for later examination. Heaviest mortality was observed in late winter and early spring. Mrs. Pearl reported that, at times, every bird coming to her feeder appeared to be affected to some degree. Some of the Cardinals, Common Grackles, Red-winged Blackbirds, Chipping Sparrows, and House Sparrows had subcutaneous lesions in the pectoral region similar to pustular lesions previously described for *Salmonella typhimurium* infections in birds (Wobese, G. A. and C. F. Finlayson. 1969. *Salmonella typhimurium* infection in House Sparrows. *Arch. Environ. Health*, 19: 882-884). Cultures taken from birds with lesions and affected birds without lesions were positive for *Salmonella typhimurium*.

As a partial test of our diagnosis that an agent in or on the soil caused the death of these wild birds, we suggested birds be discouraged from frequenting the feeding site in large numbers and that food be elevated and moved to another part of the yard. This was practical only to a limited extent. A collection of individuals of most of the same passerine species that had been infected earlier was made on 10 March 1974. All specimens were devoid of any lesions and otherwise in good condition. Cultures made from them were negative for *Salmonella*. Possibly the decline in incidence of infection was caused by the disease-induced reduction in the population using the feeding station.

*Salmonella typhimurium* is orally communicable to man and other animals by infected feces or other contaminated sources. Birds feeding on foods scattered on the ground or on elevated platforms that go uncleaned for long periods of time are highly susceptible to salmonellosis. As a



matter of course, those who feed birds regularly should avoid the use of ground feeding stations and occasionally should clean and thoroughly disinfect elevated platforms, particularly if sick or dead birds are observed in the vicinity. If feed is made available on the ground, the site should be changed regularly to reduce the likelihood of contact with infected feces. The Florida Game and Fresh Water Fish Commission, Wildlife Research Projects Office, 4005 South Main Street, Gainesville, Florida 32601 (phone 904-376-6481) should be contacted in the event of any unexplained bird mortality. Fresh specimens should be wrapped in aluminum foil and frozen as soon as possible. More specific instructions will be provided after notification. -Stephen A. Nesbitt, Florida Game and Fresh Water Fish Commission, Wildlife Research Projects, 4005 S. Main Street, Gainesville, Florida 32601; Franklin H. White, Department of Veterinary Science, University of Florida, Gainesville, Florida 32601.

#### NOTICE: HAWK MIGRATION ASSOCIATION OF NORTH AMERICA

This notice will serve to introduce the Hawk Migration Association of North America, a newly-formed organization which will strive to increase communication between hawk-watchers, to standardize the recording and processing of hawk-migration data, and to expand and improve the coverage of hawk migration in North America.

For the purpose of the Association's work, North America has been divided into nine regions, each with a regional representative/editor. Before each spring and fall migration season, all participating hawk-watch and hawk-banding stations will receive, free, as many copies of the HMANA Report Form as are needed. After each season, hawk-watchers will return completed forms to their regional representatives, who will write a regional report. All of these regional reports, plus a continent-wide summary, will be published twice annually, and will be sent to each member.

The association is vitally interested not only in lookouts that are manned regularly, but also in those that are covered infrequently. This allows the exploring hawk-watcher leeway for searching out new watches which will help to expand the coverage throughout the South. If you are interested in learning more about the Hawk Migration Association please contact Robert S. Kennedy, Southern Regional Representative HMANA, Museum of Zoology, Louisiana State University, Baton Rouge, Louisiana 70803.

*Chordeiles minor sennetti* in Florida

The first record for Florida of a specimen of *Chordeiles minor sennetti*, a subspecies of the Common Nighthawk, was published by Mengel (*Auk*, 68: 507), who "discovered" the study skin in the collections of the University of Michigan. This specimen had been collected in Clay Springs, Orange County, on 21 April 1896.

Two more specimens of this subspecies were taken in Broward County during the autumn of 1972. The first, a road kill from Ft. Lauderdale, found on 14 October by Roger Martz, fisheries biologist, Florida Game and Fresh Water Fish Commission, is a female now in the University of Miami Reference Collections (UMRC 7283). A second bird (UMRC 7282), sex undetermined, found injured in Pompano Beach on 16 October, died in the custody of Mrs. Madelaine Menser. Identification of both specimens was confirmed at the National Museum of Natural History by John S. Weske.

I examined an additional and apparently unreported specimen of the subspecies in the collections of the American Museum of Natural History (AMNH 476887). This carries a Rothschild Museum label. Originally identified as *C. m. chapmani*—which it patently does not resemble—the identification had been redesignated "*C. m. sennetti?*". No collector is specified for this male bird taken in Hillsborough County, 24 April 1897.

*C. m. sennetti* breeds in the upper midwestern and northwestern areas of the United States and adjacent portions of Canada (Checklist of North American Birds. 1957. American Ornithologists' Union, Baltimore, Md.). Its Florida status, based on the records cited herein, is therefore that of an unusual spring or fall migrant. I suggest it is possible that occurrence may be less unusual than indicated by the records now at hand. Nighthawks are probably less well scrutinized than most migrants and, being among the more difficult to prepare as study skins, dead birds are no doubt less apt to be retrieved than those of other migrants.

Casualties of Nighthawk migrants should be carefully inspected for information concerning this, as well as other, subspecies of the Common Nighthawk.

I thank the Bird Division of the American Museum of Natural History for the opportunity to examine specimens of *Chordeiles minor*.—Oscar T. Owre, Department of Biology, University of Miami, Coral Gables, Florida 33124.

## SUGGESTIONS FOR CONTRIBUTORS

The *Florida Field Naturalist* welcomes articles and short notes containing new information on subjects relevant to the biology of wild species of birds or other vertebrates in or near Florida. Its emphasis is on papers dealing with the biology of birds, to which it will give publication priority over papers on other organisms. All articles, notes, and other materials should be submitted to the Editor: Henry M. Stevenson, Department of Biological Science, Florida State University, Tallahassee, Florida 32306.

All manuscripts should be submitted in triplicate. They should be typewritten, double-spaced, on one side of numbered sheets of standard (8 1/2 x 11 in.), unruled white paper, with margins of at least one inch on all sides.

Titles should be short and descriptive, and the body of the article should state the necessary facts without using unnecessary words. All references should be cited in the body of the text unless there are more than three, in which case each complete entry should be listed at the end under "Literature Cited", and the citation in the body should then indicate author and year of publication (e.g., Bond, 1961). Whenever there are more than two authors, list the first followed by "*et al.*" (e.g., Blair *et al.* 1968). Whenever pertinent, the particular page or pages should also be indicated (Bond, 1961: 44).

The vernacular (common) names of all species mentioned – plants or animals – should be capitalized, and the scientific name should be added in parentheses following the first reference except in the title. The scientific name should be underscored and should follow a widely accepted authority for the group of animals or plants involved (e.g. A.O.U. *Check-list*, 1957, for birds).

Abbreviations should be used sparingly in the body of the text except in parenthetical material: e.g. "Tallahassee (5 mi. SE)." Digits rather than words are recommended for all numbers except one (1). The metric system is preferred for weights and measurements and is acceptable for such measurements as distances. In writing dates, never use a number to refer to a month.

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