Characteristics of One Cedar Waxwing Flock

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ABSTRACT

Various measurements of 24 individuals from a flock of 26 Cedar Waxwings (*Bombycilla cedrorum*) mist-netted in one instant are presented.

INTRODUCTION

The Cedar Waxwing's (*Bombycilla cedrorum*) behavior has interested ornithologists and birders for centuries. One habit, which is unusual for passerines, is traveling in flocks even during the breeding season (Baird et al. 1874:402 Nuttall 1840:251, Taylor 1950). These flocks range in size from small (about six individuals) during the breeding season (Saunders 1911) to very large (hundreds, perhaps thousands) during migration (Brown 1906, Eaton 1914:356).

METHODS, RESULTS, DISCUSSION

On 8 Feb 2000, I netted 24 Cedar Waxwings at one time (1050 h) at a site 4 km northeast of Seneca, Oconee County, South Carolina (34°40' N - 82°50' W). The temperature was 7° C (45° F). The skies were overcast with a southeast wind at 5 km/h. These 24 birds appeared to constitute all but two members of a flock of 26. While Feltes (1935, 1936) used indigenous plant fruits and raisins to bait waxwings in California with a great deal of success; the attraction at this site was the availability of water. The distribution of the birds in the nets was clustered in the vicinity of two plastic paint roller trays, placed on the ground, that were used as bird baths/water sources within the banding area. These were standard water sources which were not set specifically for attracting this flock of waxwings.

All of the captured birds were aged and sexed using the methods set forth in Pyle (1997) or Pyle et al. (1987). The data collected are presented in Table 1.

A count of the waxy appendages was taken from the right wing on the assumption of bilateral symmetry. However, asymmetry is not unknown (Arvey 1951). Fifteen (62.5%) of the individuals did not have any waxy appendages (SY=13, ASY=2). However, three (12.5%) had seven, three had eight, and two (8.3%) had nine waxy appendages (tips). One individual (4.2%) had one waxy appendage. Of the individuals with waxy appendages, six were ASY and two were SY. The percentage of individuals without the waxy appendages is similiar to Yunick's (1970) tally derived from the skins at the American Museum of Natural History (60%), but is far short of the 90% of individuals without waxy tips at his Vischer Ferry banding site north of Albany, NY (424-0734). Stedman and Stedman (1989) reported similar differences between their banding sites in Ohio (89% without waxy appendages) versus Florida (67%).

Three individuals deserve additional comments:

- An ASY female's [#124 - last 3 suffix numbers] wing waxy tips were very small, less than 0.5 mm wide by 1-2 mm long.

- Individual #116 (ASY-M) had waxy tips on the rectricies: five were 1.5 mm long and one was 2 mm long. His tail had the yellow band. He had seven wing waxy appendages. (See Arvey 1951, Dwight 1900:232, Myers and Myers 1967, Roberts 1955:660, for related reports).

Table 1. Summary of various measurements taken from a flock of 24 Cedar Waxwings netted at one time in Oconee County, South Carolina, 8 Feb 2000.

Measure			Male	Female	Total
Sex:		N	15	9	24
		%	62.5	37.5	100.0
Age:	SY	N	9	7	16
		%	37.5	29.2	66.7
	ASY	N	6	2	8
		%	25.0	8.3	33.3
Tail Band:	Yellow	N	13	7	20
		%	54.1	29.2	83.3
	Orange	N	1	2	3
		%	4.2	8.3	12.5
Mixed:	Yellow & Orange	N	1	0	1
		%	4.2		4.2
Wing Chord: (unflattened:mm)		$\bar{x}$	93.6	92.9	93.3
		SD	2.1	1.4	1.8
Tail: (mm)		$\bar{x}$	57.9	54.6	56.7
		SD	2.1	2.0	2.6
Fat: Furcular (Helms & Drury1960)		$\bar{x}$	1.0	0.8	0.9
		SD	0.8	1.0	0.8
Fat: Abdominal (Helms & Drury1960)		$\bar{x}$	1.5	1.2	1.4
		SD	0.7	0.7	0.7
Weight: (g)		$\bar{x}$	33.4	32.6	33.1
		SD	2.4	1.7	2.1
Waxy Appendages:		$\bar{x}$	4	<1.0	N/R*

* N/R = Not Relevant

• Waxwing #118 (ASY-M) had a yellow tail band but with a red dot along the shaft of most of the rectricies. These dots were clearly visible in the yellow portion of the rectricies. They appeared to be the beginnings of waxy appendages. He had nine wing waxy tips.

Slightly more than 83% of this flock exhibited the characteristic yellow tail band. The 13% (n=3: 2 SY, 1 ASY) of the flock that exhibited the orange tail band was well below the 24% observed at the Powedermill Nature Reserve in Westmoreland Co., Pennsylvania, by Mulvihill et al. (1992) between 1983 and 1991, but higher than the 5% recorded there prior to 1971. Reports of orange rectricies date back to the1960s, at least (Mulvihill et al. 1992). Perhaps unrelated, but of interest nonetheless, is a report by Farley (1924) of two individuals with yellow waxy appendages, one from Vermont and the other from Maine.

Recent studies (Hudon and Brush 1989, Brush 1990, Mulvihill et al. 1992, Witmer, 1996) indicate that the color is determined by the individual's diet at the time the rectrix is replaced. Specifically, berries of the alien honeysuckle species Morrow (*Lonicera morrowii* [Caprifoliaceae]) and Tartarian (*L. tatarcia*) have been cited as the sources of the red carotenoid pigment, rhodoxanthin [rhodo = reddish] which produces the orange coloration when combined with the more common yellow carotenoid pigment, xanthophyll [xantho = yellow] (Witmer 1996). As both species of honeysuckle have been planted at Powdermill, the high percentage of orange tail bands is attributed to the abundant supply of rhodoxathin containing honeysuckle berries during the nestling stage. In locales where the nestling stage or an adult prebasic molt do not coincide with the abundance of these berries, the percentage of orange-tailed individuals decreases to nearly zero.

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