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Evening Grosbeak Age-sex Determining Criteria

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Introduction

In a previous paper (Yunick, 1973, *EBBA News*, 36: 69-70), I suggested that banders who had access to Evening Grosbeaks *(Hesperiphona vespertina)* whose age could be determined by skull examination, might be interested in checking the reliability of certain plumage characteristics for determining the age of females of this species. My own attempts to investigate these criteria on a breeding population in the Adirondack Mountains of New York have been thwarted during these past two years by the species having abandoned breeding at my Jenny Lake banding station. Therefore, a transient population was studied at my feeder in Schenectady the winter/spring of 1974-75. This paper reports on this study.

Results

Three criteria were examined and analyzed: (1) the presence of white edgings on the primary coverts; (2) the extent of white marking on the primaries; and (3) the intensity of the black coloration of the primaries and secondaries. Data were gathered on 107 females and 108 males banded between 17 February and 7 May 1975. The intensity of the wing plumage in males was compared with the presence of gray tertial edging to ascertain whether differences in the intensity of the black of the wings were reliable for age determination. This criterion was then applied to the females to determine whether the existence or extent of white in the primary coverts and primaries were reliable age-determining criteria.

The results are summarized in Table 1.

Discussion

The intensity of the wing plumage of each male was examined first and then correlated with the tertial markings. In every case, except one, the males that were judged to be second-year birds (SY) by their dull, brown-black flight feathers were found to have gray-edged tertials. In the one exception, the tertial edging had worn off and the tertials looked entirely white. In several other cases, birds that were judged to be SY birds by the dull flight plumage had to be examined very carefully to detect only traces of gray edging on the tertials.

Personally, I prefer the examination of the black intensity of the primaries and secondaries over the examination of the tertials. It is quicker and, I believe, more reliable. To someone who may be confused by just what to look for, I'd suggest comparing the intense black coloration of the lesser secondary coverts with the brown-black coloration of the primaries and secondaries. With practice, and with correlation of the tertial edgings, the difference will become easily noticeable. In some young birds, some of the middle and greater secondary coverts also molt to the rich black color, but this is variable, whereas the lesser coverts appear to be always black as of the post juvenal (first prebasic) molt.

Every male that had rich, velvety black flight plumage had very white tertials with no hint of gray edging. These birds were judged to be after-second-year males (ASY-M) and were easily recognized. Contrary to the SY-M birds which showed contrast between the rich black lesser secondary coverts and the remaining brown-black plumage, the ASY-M birds had uniformly rich black primaries, secondaries and coverts.

In the female these intensity differences were occasionally subtle and on rare occasions they were difficult to discern. Several birds had to be examined very carefully, and preferrably in good daylight, to ascertain whether their primaries and secondaries were black or brown-black. On two specimens, this differentiation could not be made with certainty and they were called after-hatching-year (AHY) birds.

Among the 66 females that were judged to be SY birds, 64 percent had white markings on more than the first six primaries, and 56 percent had white

TABLE 1. PLUMAGE CHARACTERISTICS OF EVENING GROSBEAKS

Age/Sex	Primary/Secondary Coloration		White on Primaries		White on Primary Coverts		Tertial Edging	
	Brown-Black	Black	Primaries 1-6	Primaries 1-6+	No	Yes	Gray	White
SY M	77	0	N/E	N/E	75	2	76	1
ASY M	0	31	N/E	N/E	31	0	0	31
SY F	66	0	24	42	29	37	N/E	N/E
ASY F	0	39	27	12	32	7	N/E	N/E
AHY F	2		1	1	2	0	N/E	N/E

N/E Not Evaluated

edgings on the primary coverts. Among the ASY-F birds, the occurrences were reversed with 69 percent having only the first six primaries marked with white, and 82 percent having no white edging of the primary coverts. Viewed another way, among the 54 females that had more than six white-marked primaries, only 78 percent of them were SY birds. Among the 51 birds that had only six white-marked primaries, there was a nearly even split (47/53) between SY birds and ASY birds. Similarly, of the 44 birds with white edgings on the primary coverts, only 84 percent were SY birds; and among the 61 birds which had no white on these coverts, there was again a nearly even split (48/52) between SY and ASY birds.

Thus, while the primary covert and primary markings noted on the two birds in November 1972 were generally typical of first-year and after-first-year birds, these criteria are not sufficiently reliable to be recommended for use as age-determing criteria.

One other criterion was examined but was rejected due to variability. Generally, pointed primary coverts were associated with black flight plumage, whereas blunt or rounded primary coverts were associated with brown-black flight plumage. However, depending on how one spread the wing by holding the primary tips, one could change the shape of the primary coverts. The coverts tended to adhere to the primaries, and when the primaries were spread, the coverts were stretched and became rounded. When the wing was not spread, the coverts tended to overlap and conceal their shape.

In recent years the Bird Banding Laboratory has been rejecting schedules on which female Evening Grosbeaks were recorded as SY and ASY. The only criterion used for segregating SY and ASY females on these schedules has been the differences in the intensity of the black on the flight feathers. Based on the above data wherein 98 percent of the females had discernable differences in intensity, and on the teachings of Dwight (J. Dwight, Jr., 1900. *Annals N.Y. Acad. Sci.* 13: 169-70). I believe the Bird Banding Laboratory should reassess its position on this matter.

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Annual Meeting of the Wilson Ornithological Society

The fifty-eighth annual meeting of the Wilson Ornithological Society will be held on the campus of Mississippi State University from 19-22 May 1977. In addition to the regular scientific program there will be a special symposium on woodpeckers, numerous field trips, tours of antebellum homes and local industry, recently produced movies about birds, and an exhibit of contemporary bird art.

Special field trips will provide an opportunity for visitors to observe such southern species as the Red-cockaded Woodpecker and Black Vulture at their nests.

Make your reservations now to attend. For more information contact Jerry Jackson, W.O.S. Local Committee, Box Z, Mississippi State, Ms. 39762.