

1981

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Recommended Citation

Yunick, Robert P. (1981) "Age Determination of Winter and Spring Dark-eyed Juncos," *North American Bird Bander*. Vol. 6 : Iss. 3 , Article 2.

Available at: <https://digitalcommons.usf.edu/nabb/vol6/iss3/2>

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Age determination of winter and spring Dark-eyed Juncos

Robert P. Yunick

Judging from information offered at workshop sessions at recent EBBA meetings, banders are increasingly determining the age of birds in the hand using plumage characteristics resulting from differences in molt strategies. Most notable have been the age determination of certain species which exhibit contrasting color or intensity of retained and renewed portions of their flight plumage; and those which retain recognizable portions of their juvenal plumage. In the first category are some warblers, tanagers, orioles, grosbeaks, etc. whose renewed, darker or more richly colored coverts contrast with the retained, paler juvenal primaries and secondaries. This contrast separates the hatching-year (HY)/second-year (SY) birds from the adults which have undergone at least their second prebasic (first postnuptial) molt. In the adults, all of the flight plumage is a uniform, dark color lacking contrast. In the second case are thrushes and others which retain some of their juvenal secondary coverts and are therefore recognizable as HY/SY birds until they undergo their second prebasic molt.

By noting differences in molt of Dark-eyed Juncos (*Junco hyemalis*) on their breeding/natal ground at Jenny Lake, near Corinth, Saratoga Co., N.Y., I have found that HY/SY birds may be separated from AHY/ASY birds by using another manifestation of contrast between renewed and retained plumage, involving the edgings of the tertials and the secondary coverts. Juvenile juncos normally retain their brown-edged juvenal tertials at their first prebasic (postjuvenal) molt, while birds undergoing their second or subsequent prebasic (postnuptial) molt lose these feathers and acquire grey edging matching that of the other renewed wing plumage.

In the HY/SY birds these brownish-edged, retained tertials contrast with the new, grey-edged secondary coverts. Males are most easily recognized. Some females are more difficult to discern; however, if one accustoms one's eye to recognize these differences in the autumn

when young and old are reliably recognized by skull examination, then it becomes easier in winter and spring to recognize these plumage differences. By spring the SY birds show considerably greater wear on their tertials than do ASY birds, because these tertials are about 3 months older than those on ASY birds. Also, because of this wear, one must use care in recognizing some individuals, mostly females, which have bicolored edging. Some birds have an outer brown edge and an inner pale grey edge lacking the richness of the uniform grey of an ASY.

An occasional HY junco shows partial renewal of some of its tertials, and only very rarely does an HY bird renew all 3 tertials as the adults do. In a sample of 128 HY juncos banded at Jenny Lake from mid-August to mid-October in 1979 and 1980, 8 birds (6.3 percent) showed symmetrical renewal of 1 or 2 tertials, and 2 (1.6 percent) showed unsymmetrical renewal, resulting presumably from accidental loss in 1 wing only. Of these 8, 2 had renewed the top tertial, 2 the middle, 3 the combined top and middle. In addition, 1 bird (0.78 percent) was symmetrically renewing all 3 tertials as the adults do.

Similar results were obtained from a spring sample of 191 SY birds taken between 28 March and 5 May 1981 in my yard in Schenectady. 12 birds (6.3 percent) showed previous, partial, symmetrical renewal and 3 (1.6 percent) had undergone unsymmetrical renewal. Among the 12 symmetrical replacements, 10 had renewed the top tertial, 1 the bottom and 1 the top and bottom.

In addition to this case of using tertial retention to recognize 2 age classes of juncos, a similar method has been in use for several years with male Evening Grosbeaks (*Hesperiphona vespertina*), and may well apply to other species. Preliminary indications show that the HY/SY White-throated Sparrows (*Zonotrichia albicollis*) tend to have richly chestnut-edged tertials while the AHY/ASY birds tend toward some amount of pale buff edging. However, there is considerable variability in this species and use of the method in this species is not yet recommended. Nevertheless, banders may wish to examine other species and determine applicability of tertial retention as a means of determining age. ☐

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