Iris changes in hatching year Yellow-eyed Juncos

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The Yellow-eyed Junco *(Junco phaeonotus palliatus)* in the mountains of southern Arizona is the northernmost representative of a species whose range extends south to Guatemala. Although similar in general appearance to the Grey-headed Junco *(Junco caniceps)* and separated in breeding area by a scant 55 km, the Yellow-eyed Junco is readily distinguishable, when adult, by its orange-yellow (Smithe 1975) iris. At least some females have the iris orange-yellow/spectrum-yellow. However, like a number of species in diverse families and orders, this junco has a brown iris as a nestling, the coloration changing rapidly over the first few months. The eye color changes in the Dark-eyed Junco *(Junco hyemalis)* have been reported (Yunick 1977), but nothing appears to have been published on this sequence for the Yellow-eyed Junco.

We mist-netted birds in the Santa Catalina Mountains of southeastern Arizona from June 1975 through November 1976. Netting was conducted at 2 adjacent localities, Loma Linda (8,100 ft — 2500 m) and Bear Wallow (7,800 ft — 2400 m). In the course of banding operations the second year, we kept a record of the iris color of hatching-year birds, utilizing the "Naturalist's Color Guide" (Smithe 1975) and frequently combined 2 colors as necessary. Since the breeding season extends from mid-April to late August (Davis and Russell 1979), the approximate age of each bird had to be determined by plumage and molt in addition to iris color. Fortunately, we had a few recaptures, notably No. 81-72880 (hereafter referred to as "80") which was banded on 9 July and recaptured 19 August and 14 September. None of these immature birds was sexed.

On 8 June, iris color in 2 broods of nestlings was burnt umber and burnt umber/clay color. The earliest mist-netting of fledglings was on 9 July, and at that time there was considerable variation in iris color. Thus "80" and another bird had olive-grey irises and had streaked crowns and breasts. Other fledglings on that date were olive-grey/sulphur-yellow and even pure sulphur-yellow. The last was obviously from an early brood, for only the crown was streaked. A bird taken as late as 19 August still had an olive-grey iris and streaked crown and breast and was clearly from a later brood.

By 19 August, "80" had an olive-yellow/sulphur-yellow iris. At that time it was in heavy body molt, with a few crown streaks and faint breast streaks. On 14 September, the same bird showed moderate body molt and light crown molt. The outer rectrices were half grown. There was some skull ossification. The iris was now orange-yellow/spectrum-yellow and, on the basis of iris color, it could have been mistaken for an adult bird. A week later, however, another bird still had the streaked crown and breast and the iris was buff-yellow/spectrum-yellow. Thus, some birds taken late in September could not be safely aged using eye color only.

Based on the above rather fragmentary data, it appears to us that the sequence of iris color of hatching-year birds through their first summer and early fall is (1) burnt umber, (2) burnt umber/clay, (3) olive-grey, (4) olive-grey/sulphur-yellow, (5) olive-yellow/sulphur-yellow, (6) orange-yellow/sulphur-yellow, and (7) orange-yellow.

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