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**"YOUNG PURPLE FINCH"; SOME QUESTIONS**

A recent note in the *Review* (Green, 1988) reported on an immature Purple Finch (*Carpodacus purpureus*) and gave the impression that the bird was hatched in eastern Nebraska. Before a claim is made that would imply a first state

breeding record, and it becomes an unquestioned part of the state's literature, I believe the evidence should be closely examined and be as irrefutable as possible. The report cites evidence used to support the claim of recent, nearby fledging, but, in my opinion, the cited evidence refutes rather than supports that claim. Since the species has never been reported to be a part of the state's breeding avifauna, I believe a response is in order.

My concerns with the report fall into several areas: 1) the age criteria listed in the note are not diagnostic for aging this species; 2) accepted age criteria which are diagnostic were not used, nor even mentioned; 3) the likelihood of finding a just-fledged bird on this date, at this location, is not discussed or even mentioned. I will address these points in turn.

The report cites three points in identifying the bird as recently fledged: 1) an orange gape, 2) "juvenile" plumage, 3) incomplete feather tract.

1) Orange gape: the only reference to gape in the age key used in the Banding Manual (USF&WS, 1980) is the statement "DO NOT age by gape" (their emphasis). Although many passerines may be reliably aged by the presence of a swollen, brightly colored gape, it is NOT a reliable age indicator for this species.

2) Juvenal plumage: The diagnostic criteria cited in the Banding Manual to identify juvenile plumage are: "throat finely and heavily streaked and undertail coverts streaked; crissum fluffy and loosely textured". Bent (1968) describes the abdomen as "dull white, streaked with paler olive-brown"; while Roberts' (1955) description of the abdomen states that the "markings are diffuse, faint yellowish below". The photo in the Audubon Master guide (1983) labeled "immature" (which appears to be of a juvenal-plumaged individual) illustrates the difference between juvenal and the first pre-basic (first winter) plumage very clearly. The original photo (NOU Records Committee file #517-1), which is labeled "juvenile plumage", shows only the belly and cheek and thus does not show the diagnostic marks as stated in the Banding Manual. It does, however, show an abdomen with sharply defined markings on a clear white background, thus indicating that the bird is not in juvenal plumage. The photo labeled "gape" does give a good view of the throat. It does not show a throat "finely and heavily streaked" however; it shows, instead, a throat with a clear, unmarked white throat patch, another characteristic mark of an older bird.

If the bird was molting into juvenal plumage (pre-juvenal molt) as the note infers, remnants of natal down would very likely still be present and the feathers would be fresh and unworn. Down is not mentioned in the text, nor is any evident in the picture. A close examination of the original photo shows the crown feathers to be quite worn, exactly what would be expected in a bird undergoing the normal partial pre-alternate (pre-nuptial) molt at a minimum age of 10 - 12 months.

Another age clue mentioned in the literature and illustrated in the photos of the Audubon Master Guide is a short, indistinct superciliary stripe. The photos of the bird in question show instead a bright, clearly defined stripe, which extends on down the neck. While this is not an absolutely diagnostic mark by itself, it is yet another strong indication of a more mature bird.

3) Incomplete feather tract: Although this term is not further described, the original photo shows an incompletely filled ventral tract, with numerous pinfeathers. This is a strong indication that molt is in progress, although there is a remote possibility that these feathers are being replaced after an injury. Assuming molt, the question is, which molt is occurring? The Banding Manual states that the normal pre-alternate (pre-nuptial) molt is restricted to the head, but a more recent reference (Pyle, et al., 1987) is not so restrictive, stating instead that the species undergoes a limited, pre-alternate molt in April. Both references list unanswered questions about plumage/molt sequences that are still in need of further research, apparently because the species exhibits so much individual variation.

A final question, not mentioned in the note, is the likelihood of finding a just-fledged bird on this date at this location. The answer is that it is unlikely in the extreme. The nearest regular breeding range appears to be in north-central Minnesota and Wisconsin (DeSante and Pyle, 1986). However, breeding activity there does not commence until late May - early June, with the young being fledged in July (Johnsgard, 1979). Bent lists a total of 109 egg dates for the U.S. The peak appears to be about the first week of June. The earliest egg record reported was 15 May. If we work backward from the date of

this report, 20 April, and subtract 14 days for the nestling period, minus another 13 days for incubation, we arrive at a laying date not later than 20 March, about 2.5 months earlier than average and nearly 2 months earlier than any reported by Bent. This would require a nesting two months early and 400 miles out of range and in the wrong habitat. A search of the regional reports in *American Birds* (1987) revealed no mention of unusual breeding activity by Purple Finches for the eastern half of the continent during that spring and summer. They were mentioned only in passing as being present in normal or lower than normal numbers.

In summary, I believe this report does not justify the belief that the bird was raised nearby nor that it is a young bird. The criteria used to age the bird are demonstrably unreliable. The photos show quite clearly the markings characteristic of a bird at least 10-11 months old. There is nothing to demonstrate that it was anything other than a bird undergoing its first pre-alternate molt. The orange gape is not completely "normal", but as the Banding Manual warns, it cannot be used as an age indicator for this species. The bird appears to be a sub-adult undergoing its usual pre-alternate molt in April, right on schedule. The difficulty in aging this species correctly has been a problem for the past century and some questions may yet remain to be answered. It shows again how imperfect our collective knowledge is of even a common species.

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