

FURTHER NOTES ON THE OCCURRENCE OF PINK COLORATION IN PURPLE FINCHES

By JOHN H. KENNARD

For the past eight years, I have been operating a small bird banding station with "pull traps" on the lawn of my home in Bedford, New Hampshire. During this period, I have become interested in studying the sex and color changes of the Purple Finch (*Carpodacus purpureus*) and in particular in those individuals showing a pink (or occasionally yellow) color, as opposed to the deep "wine red" of the typical adult male. Three years ago, I became convinced that certain individuals showing this pink coloration were females, in spite of the fact that pink coloration in the female had not, to my knowledge, been described.

I, therefore, sent two of these birds to Mr. James C. Greenway, Curator of Birds, Harvard University, who reported that they were both mature breeding females; this was reported by me in the *Auk* (76: 363; July, 1959). Since that time, I have made further observations about the occurrence of pink coloration in purple finches.

I have now banded 571 purple finches, of which 48 have shown this pink, or occasionally yellow color; of the 571, 56 have returned for more than one season.

Of these 56, 19 were males, red at the time of banding, that have returned 8 for two years, 8 for three years and 1 each returning on fourth, fifth and eighth years. Not one of these 19 birds has shown any fading of the bright red color present on banding.

Most interesting to me were the 19 birds, known to be more than two years old, that I am convinced are female, shown in Table I.

There were eight "foreign returns," two red males and six presumably

TABLE I

PURPLE FINCH — FEMALE RETURNS

6 Yrs.	55-03706	5/4/54 Y	5/3/56 Y	4/25/59 P
	57-33816	5/11/56 Br.		8/8/61 Y
5 Yrs.	55-03635	4/9/54 Br.		5/7/58 P (Greenway)
	55-59376	4/21/57 P		8/18/61 P+Y
	57-33732	7/11/55 Br.	5/11/56 P	5/3/59 P
4 Yrs.	55-03644	4/22/54 Br.		4/10/57 P
	57-33730	7/6/55 Br.		5/9/58 P (Greenway)
3 Yrs.	55-03623	8/10/54 Br.	5/5/55 P	5/10/56 P
	-03726	8/11/54 Br.		5/15/56 Br.
	-59369	4/17/57 Br.		4/22/59 P
	57-33702	5/3/55 Br.	9/9/56 Br.	4/21/57 P
	58-79874	5/9/58 Br.	4/27/59 P	5/4/60 P
2 Yrs.	55-03637	4/4/54 Br.		4/30/55 Br.
	-03728	8/11/54 Br.		5/3/55 Br.
	-03753	8/22/54 Br.		7/12/55 Br.
	57-33738	7/12/55 Br.		5/3/56 P
	-33839	5/16/56 Br.		5/1/57 P
	-33842	5/16/56 Br.		7/7/57 P
	-33852	5/20/56 Br.		5/1/57 P

CODE: Br. — brown Y — yellow P — pink R — red

female; one of these, banded in Bedford, New Hampshire May 11, 1956, was retrapped in February, 1959, in Concord, Massachusetts and was recorded as "sub-adult male."

Discussion: In 1957, I had received instruction from the Bird-Banding Office to classify individuals showing pink coloration as "sub-adult males." In 1958, in personal communications, Mr. Ludlow Griscom had informed me that there were no skins of proven females showing pink color in the Harvard collections. Mr. Griscom suggested that the light pink birds were elderly males in which the normal red color had faded, due either to age or dietary factors, as male purple finches in captivity were known to lose their red color.

Meanwhile, Charles H. Blake, working at the banding station of the Parker C. Reeds, Lexington, Massachusetts in the summer of 1954, had done extensive work on this phase of the problem (*Bird-Banding*, 28: 26, January, 1957). Blake concludes that a high proportion of adult females tend to assume "male characters" (pink coloration) and that "a smaller fraction develops yellow caretenoid coloring."

This study definitely confirms Blake's chief conclusions and points up some still unanswered questions. Of my 19 females returning for two or more seasons, there were only four which failed to show either pink or yellow coloration. Of these three were observed only during a second season and one, 55-03726, banded brown, August 11, 1954, was still brown April 15, 1956. Of the 12 birds known to be three years old or older, every one showed either pink or yellow coloration. Therefore, I believe that while some females remain brown up to three years of age, the majority will show either pink or yellow color after their second post-nuptial molt.

In this area, it appears that individuals showing this pink color arrive later than brown individuals. For instance, in February, March, and April 1954, I banded 134 birds, 64 red males and 70 brown birds, without a single pink bird present; yet in May and June, when presumably I have chiefly locally breeding birds, the majority of the non-red males show either pink or yellow coloration. Could this indicate that the flocks migrating into this area in the late winter are composed chiefly of males, the females following at a later date? Or possibly could these be birds from the northern part of their breeding range, where possibly the females do not as often show the pink color?

The yellow coloration is even more confusing. Certainly some individuals of both sexes show yellow where others show pink and certain of these change from yellow to pink. 55-03736 showed this yellow coloration when banded May 4, 1954 and was still yellow on May 3, 1956; however, this individual showed up definitely pink on April 25, 1959. 55-33816, banded brown on May 11, 1956, was retrapped August 8, 1961, showing the strongest yellow I have yet seen; this occurred on head, neck, wings, tail, rump and even out onto breast and under tail converts.

There were three birds, initially considered female by me, that later turned out to be male. 55-59378, banded "pink" on May 1, 1957, reappeared as a bright red male September 21, 1957. 62-22679 banded April 22, 1959 and listed by me as "pink female" showed up May 3, 1960 and April 23, 1961 as a bright male. 57-33735 showed definite yellow coloration on July 12, 1955 and reappeared as a bright red male May 16, 1956. One bird, 55-59379, banded May 1, 1957 showed both pink and yellow

TABLE II
PURPLE FINCH MALES

	Brown on Banding		
	<i>Brown</i>		<i>Red</i>
55-03647	4/25/54 + 6/7/54		5/5/55
57-33737	7/12/55		4/27/56
-33831	5/15/56		4/3/57
-33841	5/16/56		4/7/57
-33855	6/30/51		4/5/57
62-22196	7/24/59		4/28/60
-22197	7/25/59		7/3/61
	<i>Pink</i>		<i>Red</i>
55-59378	5/1/57		9/21/57 — 3/30/59
62-22679	4/22/59		5/30/60 — 4/23/61
	<i>Yellow</i>		<i>Red</i>
57-33735	7/12/55		5/16/56
	<i>Sp. Brown P + Y</i>		
55-59379	5/1/57 (Flight Song From Hand)		

feathers and was briefly recorded as female. This individual, when released from my hand, flew straight up into the air singing a typical male flight song.

Conclusion: This study supports the conclusions of Charles H. Blake that most female purple finches in this area show pink coloration, probably after the second post-nuptial molt. It also shows that some individuals show yellow instead of pink and that at least some of these, at a later date, will change from yellow to pink, but that some will maintain this yellow color until at least six years old. Males may go through either a pink or a yellow phase before acquiring their typical adult plumage. I have raised an unanswered question as to why there appear to be proportionately less of these pink individuals in the late winter flocks than are present in the early summer breeding population. I admit that I cannot tell the males from the females in the brown, pink or yellow phases.

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GENERAL NOTES

Pull Traps and Color Marking.—This note is intended as a plea for the more widespread use of the combination of "pull traps" and color marking as a means of study of local population of seed eating birds.

In recent years it has appeared to me that the accent, both in the literature and at NEBBA meetings, has been on mist netting or on newer and better automatic traps. By "pull traps" I mean simple cages with doors that can be closed by pulling a string. In my own case I use simple rectangular cages of hardware cloth, with two or three doors which close simultaneously when I pull a string, the string being led in through a tiny hole in my window.

Mist nets require constant supervision, and a great deal of time. In winter with a local population of banded chickadees mist-netting becomes impractical.

Automatic traps cannot be selective and will catch the same individual bird over and over, while another individual, shier or wiser than the first will avoid the trap. If not constantly watched, injuries are frequent in either mist nets or automatic traps.

With pull traps, the trap can be left open all the time and used as a feeding station. The birds learn to use it rapidly, and the regulars will lead the strangers into it. This year when my Tree Sparrows arrived, there were about 20 in the flock, and immediately some went into the trap. I pulled the string and caught five, all of which had been banded the previous year. It was not until later that the young (or new) birds were led in by the older ones. My experience with Purple Finches has been similar.