

rarely. In door at 11 A.M. Gone at 4.30 P.M. No sounds from the family."

XANTHOCHRISM IN THE PURPLE FINCH

BY C. L. WHITTLE

ON THE 17th of July, Mrs. Whittle banded an olivaceous Purple Finch (*Carpodacus p. purpureus*) No. A28748 at Peterboro, New Hampshire. This bird had a well-marked patch of primrose-yellow feathers on its under parts, occupying an approximately oval area about one and one-half inches long by three-quarters of an inch wide occurring partly on the flank and partly on the abdomen. In addition, the under tail-coverts were buffy, one of the few instances of this kind noted by me on a Purple Finch. The angle of commisure was of an orange-color, one of the manifestations accompanying the molt of the adult Purple Finch. The word "adult" is used advisedly, for during five years of active banding I have never observed a known bird-of-the-year to exhibit this accompanying phenomenon, which often includes the entire lining of the mouth. The sex of the bird is unknown, and also its age, except that it was not a bird-of-the-year as shown by its abraded plumage. Mention should be made of the fact that whereas an orange-color at the angle of the gape appears only during the post-nuptial molt, the occurrence of yellow there, which is common on a majority of the Purple Finches captured during the early part of April, does not appear to be so directly connected with a condition of molt. What was probably another case of the same kind occurred on an olivaceous Purple Finch banded April 4, 1927, regarding which my record-card reads: "Solid bright buff patch one-half inch across on right side; none on the left side." No feathers were collected, however.

Buffiness and bright yellow olive are common on the upper parts of many birds of this race, the latter usually appearing of greatest intensity on the rump of old females, and the former usually regularly placed on the sides of or including the breast of both young and old birds, especially noticeable on old birds in fresh post-nuptial plumage, when they can hardly be distinguishable from juvenile birds. Such buffy color is also not infrequently irregularly placed on the breast, one example being a well-marked band nearly one-half inch wide crossing it diagonally.

In the case in hand, the uniformity of the color and its intensity were pronounced, so much so that two feathers from the yellow patch were collected and mounted between glass slides. An examination with a high-power lens (x16) revealed the cause of the uniformity of the color as well as its intensity. These arise from the fact that *both* the barbs and the barbules are yellow. In the case of the olive-yellow or rosy rump feathers of this species studied thus far, the high colors are confined to the barbs, the pale grey to smoky barbules when present serving to lessen or to mask partially the pronounced colors of the barbs. Whether this distribution of color is characteristic of other kinds of abnormal color phases, I am unaware.

It should be stated that it is quite easy to be deceived as to the yellowness of the barbules on account of their small cross section (which is approximately one-fourth that of the barbs), as viewed by transmitted light. That the barbules, which singly appear hardly of the palest yellow-color, are, indeed, of a translucent yellow color is evident when several overlap, thus giving a total thickness of color approaching that of a barb. Of course, as these feathers overlap one another on the bird, the yellowness is still further augmented, resulting in the uniformity and depth of color observed.

On September 7, 1927, the yellow feathers collected on July 17th were re-examined, and to my surprise the yellow color so pronounced when the feathers were collected had largely disappeared by fading. During the intervening period of about six weeks they had been kept with other mounts in a box having a poorly-fitting cover so that a certain amount of light entered it.

The feathers of this yellow area were old and badly frayed. Were they new feathers, it would be conceivable that the "fading" was due to a drying-out process whereby more light is scattered, thus lessening the intensity of the yellow. The yellow colors of mounted rump feathers previously studied, however, showed no appreciable fading, although much longer subjected to the same conditions.

Referring again to the new buffy areas on the sides of the breast of molting Purple Finches, it is of interest to observe that my notes on birds banded in the spring or during the winter make little mention of the occurrence of such coloring, a fact that appears to indicate that these yellowish areas also often fade to an important degree.

The ephemeral character of this color in the above instances is of considerable significance in several particulars, one being

its bearing on the status of subspecies in general established in part by studies of museum collections of bird-skins, where small differences in color are often cited as evidence of racial variation. It is not easy to understand how it is that a "dead" feather is worn by a bird for months, during which its color is maintained, when a similar-colored feather six weeks after its removal loses much of its color by fading.

GENERAL NOTES

Some results from Banding Sea-Birds.—The continued banding of sea-birds on their breeding grounds on the north shore of the Gulf of St. Lawrence is providing a variety of information, some of which may be of sufficient interest to readers of the *Bulletin* to warrant its publication here. It is felt that these data are yet too few, however, to make it desirable to attempt to draw any very general conclusions from them. In the case of the recovery of numbers 302454, 302464, and 302476, Double-crested Cormorants (see records below), it is interesting to observe the fairly close proximity to one another, in this case at least, of young birds from one colony after some eight hundred miles of migration. This is in marked contrast to the wanderings of some young Gulls, whose native groups, not only those of the colony, but those of the individual family, seem often to break up soon after the young can fly.

The shifting of numbers 405937 and 405938, Razor-billed Auks, from one island, on which they bred in 1926, to another island, on which they bred in 1927, is the first example of such change of breeding-place that I have observed in any birds of their family. It is probably explainable by the fact that large banks of snow lay on St. Mary Islands so late in the spring and early summer of 1927 that many sheltered places where Auks, Murres, Puffins, and Guillemots were accustomed to lay their eggs were covered with snow all through June, and the birds that were in the habit of using these particular places had to seek elsewhere a shelter for their eggs. The two islands concerned in this known instance are very close to one another, and are connected at low tide.

The Puffins and Razor-billed Auks in this list had undoubtedly migrated between the time of their original banding and the time of their recapture, for there are no birds of these species about St. Mary Islands in winter. These recaptures may therefore rank as "returns."

All of the birds recorded below were banded by the writer, who also made those recaptures of living birds that are not accredited to others.

No. 368632, Razor-billed Auk, banded as an adult on Eastern Island of the St. Mary Islands group, Saguenay County, Quebec, on July 16, 1925, was recaptured on the same island on July 21, 1927. As the band was badly worn, it was removed and replaced by new band No. 497504, and the bird was then released.

No. 405914, Razor-billed Auk, banded as an adult on the Western Island of the St. Mary Islands group, Saguenay County, Quebec, on August 2, 1926, was recaptured on the same island on July 24, 1927, and released.

No. 405937, Razor-billed Auk, banded as an adult on Western Island, of the St. Mary Islands group, Saguenay County, Quebec, on August 3,