

## GENERAL NOTES

**A rarely reported sex-plumage association in a Rose-breasted Grosbeak.**—Forty-one Rose-breasted Grosbeaks (*Pheucticus ludovicianus*) collected 26 September 1968 as television tower casualties were examined for age, sex, and plumage associations. I am indebted to Amelia Laskey for making these casualties available for study. Her account of collection of casualties is found in Laskey, 1969. John Ogden kindly referred me to Moyer's note cited below. Exposed skulls were examined for complete or incomplete ossification as an indicator of age. Sex was determined by dissection and observing gonads under magnification. These sex and age characters were then related to various plumage patterns.

Twenty-two of 23 grosbeaks with rose-colored axillars associated with either black or brownish wings and tail, various patterns of black secondary coverts, and various degrees of rose on the chest were males. The remaining bird with rose-colored axillars had brown wings and tail, no black on its wing coverts, no rose on the chest, and heavy brown streaks on the breast. This bird had a completely ossified skull and well developed ovaries as found in adult females. It is to be emphasized that the rose color could not be distinguished from that of the male grosbeaks. Occasional female grosbeaks have a few orange or salmon tinted feathers mixed with yellow ones as did two of 17 females of this casualty sample. Another female had all axillars of an orange tint, a color completely free of any rosy cast. This was not a color deepening with age since the bird was immature.

The above described sex-color combination is rare but not unknown in Rose-breasted Grosbeaks. Roberts' (1955) Manual says of adult female Rose-breasted Grosbeaks the "lining of the wing . . . may be . . . rarely as rose-red as in the male." Moyer (1930) reported collecting a female in Illinois with rose-pink wing linings. He subsequently found one museum specimen similarly marked. There are instances in other species of color changes in female birds toward a male color as age advances, for example brown Purple Finches (*Carpodacus purpureus*) that develop a raspberry color as they grow older.

Sex and thyroid hormones are known to affect pigmentation of feathers, but balances between them are too complicated and sensitive to be speculated about loosely. In the present instance there is no evidence that the color in this female changed from yellow to rose with advancing age. Nor is there any way to know if it reflects a congenitally abnormal pattern. A long term program of study as that begun by Smith (1966) might eventually shed some light on the development of this unusual color-sex association. Whatever the basis of its occurrence rose color in the wing lining of a Rose-breasted Grosbeak associated with femaleness could be easily overlooked even with a bird in the hand. Banders should be aware of the rare occurrence of this color pattern.

### LITERATURE CITED

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