AN ESTIMATE OF THE SEX RATIO OF THE ROSE-BREASTED GROSBEAK (*Hedymeles ludovicianus*) WITH COMMENTS ON THE SPECIES

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AT my banding station in Peterboro, New Hampshire, during the last ten years I have usually had one or two Rose-breasted Grosbeaks drop in as the nesting season approached and often a single male would be a return. These would disappear in a day or two for the season. In 1937, however, six appeared, three males and three females, and were banded with colored bands. Of these a pair apparently nested very near the station as a female came for sunflower seeds every day throughout the nesting season, a bird having a pronounced yellowish breast. Her mate, however, was not seen.

In 1938 a still more marked increase in the number of Grosbeaks occurred. The first two to appear were returns, a male (a return in 1937) and the yellow-breasted female banded in 1937, her yellow coloration being quite as pronounced as during last season. These were immediately followed by several males and females who entered the traps and were banded with metal and colored bands, but they did not tarry for more than a day or two. A still greater increase in the number of both sexes then occurred so that about fifty were banded and three more were banded after the nesting season began, all fifty-three with celluloid bands but, owing to a shortage of metal bands, about a dozen were banded with colored bands only.

In all sixty-eight birds visited the station or were seen nearby. Of these thirty-seven were adult (two years old or older) or immature males. Those having brown primaries and rectrices were deemed immature birds. The adult females numbered twenty-seven. Four birds-of-the-year were identified as to sex by their under-wing coloration, making a total of sixty-eight birds, a sex-ratio of 39 males to 29 females, 57.35 per cent males to 42.64 per cent females.

Whether or not this sex-ratio is reasonably accurate, it is in accordance with the great majority of sex-ratios reported to date in this country and it raises the question, what part do the surplus males play in nature's economy during nesting time? In case of a species raising only one brood, surplus males have little chance to secure mates, but with species raising two or three broods per season, their opportunities to obtain mates are greatly increased.

Of these fifty-three banded birds fourteen pairs remained during the nesting season sufficiently near the station to come several times each day for sunflower seeds. The traps used were a 28-inch pull-string and a window-shelf trap 8″ x 10″ x 10″. Most of the Grosbeaks were taken in the shelf trap, often two birds at a time. The yellow-breasted female was included among the fourteen pairs.

It was expected that opportunity would be had to band a goodly number of juvenile birds, but in this I was disappointed as only six or eight came to the shelf where they were fed by their parents, both males and females participating. All young birds studied possessed the head colorations of the adult female and the coloration of the primaries, rectrices, rump and wing bars were also in agreement, but otherwise they varied greatly, particularly in having yellowish sides sprinkled with small dots of blackish brown, also on the lower hind neck.

The males were very inoffensive. They would allow Purple Finches to drive them away and the female Grosbeaks also did so.

The plumage coloration of the nesting females presented little detectable variation. The nesting males, however, had plumages varying greatly. In fact, no two birds possessed identical plumages, differences to be expected in immature birds, but which occurred on the older birds and consisted mainly of the number, size and position of the white areas. These differences were so marked that I could identify most of the eight nesting males without recourse to the colored bands. The median coverts were variable in shape and were often elliptical or irregular, being merely a roundish spot, and occasionally linear in which case the angle made with the primary coverts could be roughly estimated. I observed no case of parallelism and the angle made occasionally reached forty-five degrees. This lack of parallelism led me to compare the colored plates (presumably painted from skins) made by three prominent painters, with the living adult males as I have seen them perched usually at a distance of two or three feet. In the "Birds of New York," Fuertes makes the two wing coverts parallel, the median white line of the coverts approximately three times the width of the white line of the greater coverts, and the white area at the base of the primaries showing very prominently. Allan Brooks in the "Birds of Massachusetts and Other New England States," also shows the coverts parallel and the exposed white at the base of the primaries very prominent. R. T. Peterson (*Bird Lore*, March–April, 1938) shows the two coverts making a slight angle and the exposed white at the base of the primaries equally prominent. My purpose in referring to the above plates is to point out that only one of the more than thirty males examined by me showed the large white extension of the basal white area in the wing. In some birds there was no visible extension whatever, so that, if the birds seen by me are representative, bird observers will commonly fail to see the particular male shown in the above plates. In addition the lack of parallelism of the wing coverts as shown in the plates will also be infrequently met with either in immature or in older Rose-breasted Grosbeaks.