

VARIATION IN *DUMETELLA CAROLINENSIS*

BY A. L. RAND AND M. A. TRAYLOR

CURSORY examination of the specimens of the catbird, *Dumetella carolinensis* (Linnaeus), in the Chicago Natural History Museum showed that, on the whole, western specimens appeared lighter below than eastern specimens, an arrangement that agreed with Aldrich's recent description of a western race *ruficrissa* (Proc. Biol. Soc. Wash., 59: 132, 1946). However, several birds from the eastern seaboard were as pale as birds from the far west, and a more critical examination was necessary to determine the type and extent of variation within the species. This examination shows that although western birds average generally paler, there is no simple cline from east to west and the population from west of the great plains is not sufficiently distinct to be separable.

TABLE 1

	<i>Dark</i>			<i>Pale</i>		
	1	2	3	4	5	6
Massachusetts		1	1			
Connecticut	1	1	4	2	1	
North Carolina					1	
South Carolina					1	1
Georgia				1		1
Mississippi	2	1		1		
Texas		1		1		
Tennessee	1					
Illinois	4	2	2	3		
Wisconsin	2	3				
North Dakota		1	1	1	2	
Saskatchewan				1	2	2
Colorado			1		1	1
Montana					1	
Idaho			1		1	1
Alberta						1
British Columbia						2
Washington						1

Sixty breeding birds were available for analysis from all parts of the range. These specimens were laid out in a single graduated series, with the darkest birds on one end and the palest at the other. The color of the underparts was used as a criterion, rather than the color

of the crissum. There is a fair correlation between the two, but the latter is more subject to change with age, and is less constant, than the former. The result was a series with so gradual a change from dark to light that at first glance it appeared homogeneous. For simplicity of analysis the series was broken down into six groups of ten birds each, and tabulated by locality.

A study of Table 1 reveals that there is not a simple cline from east to west but that three populations are involved. There is a pale western population, Washington to North Dakota; a dark central population, Wisconsin to Mississippi and Texas; and an intermediate eastern seaboard population, Massachusetts to Georgia. The morphologically intermediate population is not, as might be expected, intermediate geographically, but is found at the eastern extremity of the range.

The data may now be more conveniently grouped (Table 2) by populations rather than states, and analyzed to see if any one of the populations may be separated from the other two. The brackets enclose the 75 per cent darkest or lightest in each population.

TABLE 2

	Dark	—————→Light				
Eastern	1	2	5	3	3	2
Central	9	7	2	5		
Western		1	3	2	7	8

Table 2 shows that using the strict convention that 75 per cent of one population must be separable from 100 per cent of another for a subspecies to be considered valid none of the populations can be separated. Even with the debated convention that 75 per cent of one population be separated from 75 per cent of the other, the western could be separated from the central, but neither from the eastern.

The proposition advanced by Aldrich (*op. cit.*) that the eastern and central birds are separable from the western birds is illustrated in Table 3.

It is apparent that 75 per cent of the darkest birds of the eastern and central populations are not separable from 100 per cent or even 75 per cent of the lightest birds of the western population, and the groups are not separable in a taxonomic sense.

This seems to be a case where names can not be applied, but the trend must be stated in words; the central population tends to average darkest; the western population lightest, and the eastern one intermediate.

TABLE 3

Central and Eastern	10	9	7	8	3	2
Western		1	3	2	7	8

Although the color characteristics of the three populations are not sufficiently pronounced to permit naming of different races, they can be used to determine the breeding ranges of different wintering populations. For this purpose the data in Table 2 can be more conveniently grouped into three categories, dark, medium and light.

TABLE 4

	<i>Dark</i>	<i>Medium</i>	<i>Light</i>
Eastern	3	8	5
Central	16	7	0
Western	1	5	15

Seventy-seven specimens of wintering birds were compared directly with the "color scale" of breeding birds, and placed in the appropriate categories. Three wintering populations were analyzed: Florida; the West Indies, including the Bahamas, Cuba, and Jamaica; southeastern Mexico and Central America. These data are summarized in Table 5.

TABLE 5

	<i>Dark</i>	<i>Medium</i>	<i>Light</i>
Florida	1	10	5
West Indies	6	19	7
Southeastern Mexico and Central America	0	16	13

Birds from Florida and the West Indies fit the pattern of the eastern seaboard population quite closely, and almost certainly represent that group. The range of color intensity of the southeastern Mexican (Veracruz, Oaxaca, Tabasco, Campeche and Yucatan) and Central American specimens does not fit closely that of any of the three breeding populations, but is nearer to that of the eastern birds, though lacking any dark specimens. This indicates that the eastern population also migrates to eastern Mexico and Central America in winter, probably by way of the Yucatan peninsula where catbirds are found in large numbers in October.

The wintering range of the central population is presumably along the gulf coast from Mississippi to Texas, a region from which we have no wintering specimens. The western bird presumably winters in the southwestern states and western Mexico.

The above analysis suggests a method of determining the breeding range of wintering populations, even though it is hopeless to identify individual specimens. Almost any specimen of catbird can be matched by individuals from any part of the breeding range of the species. It is only by studying adequate samples of migrating or wintering populations that one can determine what their breeding area was.—*Chicago Natural History Museum, Chicago, Illinois, July 22, 1948.*

RED BOB-WHITE—A REPORT AND CORRECTION

BY LEON J. COLE, HERBERT L. STODDARD AND E. V. KOMAREK

It is a curious fact that among the earliest bob-whites described was one exemplifying the rare red phase of the species, which even today is known from relatively few specimens. The original habitat was given as "South America; locality unknown," but Gould (1843) recognized its closeness to *Colinus virginianus*, and whereas he described it as a distinct species, which he called *Ortyx castanea*, it has been generally considered an aberrant form of *virginianus*. Aldrich (1946: 497) goes so far, on the basis of measurements, as to put it in the subspecies *marilandicus*, and suggested Boston, Massachusetts, as a suitable type locality.

In his 'Monograph of the Odontophorinae' (1850), Gould republished his original description of this bird, adding a few remarks and a colored plate. Gould had only the one specimen which he obtained from the collection of the Zoological Gardens at Manchester, and which he showed in two positions. It is of interest to us because, in addition to the general rich chestnut coloring of the body, the forehead and throat of the type are black, while the under sides have more black than *virginianus*. The crop patch found in most of the red birds appears to be absent.

No special mention appears to have been made of this red quail for some time, though it would be surprising if it had not been taken by hunters from time to time. E. W. Nelson was especially interested in them, and Aldrich (1946) gives a few early records from various parts of the country, all of which fall, however, within the range which he ascribes to the subspecies *mexicanus* and *marilandicus*—that is, the northern part of the specific range of *C. virginianus*. The earliest