

GEOGRAPHIC VARIATION IN THE BAND-TAILED PIGEON

By PIERCE BRODKORB

In the course of my work on the birds of Chiapas, Mexico, I have had occasion to study the geographic variation of the Band-tailed Pigeon (*Columba fasciata*). The material used is contained in the H. B. Conover and Donald R. Dickey collections, and in the Field Museum of Natural History, the Fish and Wildlife Service Collection, the United States National Museum, and the University of Michigan Museum of Zoology. I am indebted to the gentlemen in charge of these collections for allowing me the use of their specimens. This study was aided by a grant from the Faculty Research Fund by the Board of Governors of the Horace H. Rackham School of Graduate Studies of the University of Michigan.

Since my chief purpose was the identification of Chiapas birds, I have not been concerned with the race of the Cape region of Lower California, *Columba fasciata vioscae* Brewster, nor have I considered the *albilinea* group of southern Central America, which has just lately been united with the species *fasciata*.

Griscom (Ibis, ser. 13, 5, 1935:553) summarized the geographical variation in *C. fasciata* as follows: (1) size (wing length) steadily decreases southward; (2) from southern Chiapas southward the wing is more pointed, with the tenth primary much longer than the seventh; (3) with the exception of El Salvador specimens, the great majority of southern birds are slightly browner above.

I find that there are three size groups—a large race in British Columbia and the Pacific coast states, an intermediate group in the Rocky Mountain states, Mexico, and Guatemala, and a small race in Honduras, El Salvador, and Nicaragua. Size thus decreases racially from north to south, but with a given race, northern birds are little if any larger than southern specimens.

Individual variation in wing formula is much greater than geographic variation. In birds from Guatemala northward, however, the tenth primary averages considerably longer than the seventh. Among specimens from south of Guatemala, the tenth primary tends to be shorter in relation to the seventh. This variation is the opposite of that previously claimed.

Color differences in these pigeons are also variable individually, but on the whole birds from the Pacific coast states and British Columbia are the darkest and most richly colored. Those from the Rocky Mountains south to Guatemala are the palest, and specimens from Central America are intermediate in color.

According to my views, the recognizable subspecies of the Band-tailed Pigeon, in addition to *Columba fasciata vioscae*, are the following:

***Columba fasciata monilis* Vigors**

Columba monilis Vigors, Zool. Voy. Beagle, 1839:26, pl. 10 (Monterey, California).

Characters.—Size large; coloration dark; tenth (apparent outermost) primary averages considerably longer than the seventh.

Range.—Pacific coast of North America, from British Columbia to California.

***Columba fasciata fasciata* Say**

Columba fasciata Say, in Long, Exped. Rocky Mts., 2, 1823:10, note (Plum Creek, Douglas County, Colorado).

Characters.—Wing shorter than that of *monilis*; coloration on average paler and grayer, less reddish; primary formula as in *monilis*.

Range.—Rocky Mountain states (Colorado, Texas, New Mexico, and Arizona), south through Mexico to the Pacific cordillera of Guatemala.

***Columba fasciata letonai* Dickey and van Rossem**

Columba fasciata letonai Dickey and van Rossem, Proc. Biol. Soc. Wash., 39, 1926:109 (Mount Cacaguatique, Dept. San Miguel, El Salvador).

Columba fasciata parva Griscom, Ibis, ser. 13, 5, 1935:553 (Matagalpa, Nicaragua).

Characters.—Size averages smaller than in *fasciata*; coloration on average darker than in *fasciata*, but not so dark as in *monilis*; wing on average less pointed than in either of those races.

Range.—Mountains of Honduras, El Salvador and Nicaragua.

Apparently the only Nicaraguan specimens which have been collected are the three paratypes of *parva* in the British Museum. Griscom separated them on their small size and dark coloration. He gives the wing length of the two males as 193-195 mm., of one female as 192 mm. According to Salvadori (Cat. Birds Brit. Mus., 21, 1893:293) one of the males is immature. The other specimens fall within the size range of *letonai*. Moreover, van Rossem (*in litt.*) examined the type series of *parva* and was unable to distinguish it from *letonai*.

Most of my Guatemalan material is from the Pacific cordillera. One female from Salamá, Baja Verapaz, appears to agree better with *letonai*, but I should prefer to see more material from Verapaz before extending the range of that form to Guatemala.

Extreme and average measurements (in mm.) of *Columba fasciata*

	Wing	Tenth primary longer than seventh
<i>C. f. monilis</i>		
9 ♂ British Columbia, Washington, and Oregon	218-230 (223.8)	-4 to +9 (+5.2)
13 ♂ California	218-228 (222.0)	+3 to +11 (+7.9)
<i>C. f. fasciata</i>		
18 ♂ Colorado, Texas, and New Mexico	203-216, (210.9) 226	0 to +12 (+5.1)
18 ♂ Arizona	201-217 (208.6)	+1 to +13 (+6.0)
14 ♂ Mexico	203-216 (209.5)	0 to +11 (+5.6)
8 ♂ Chiapas	208-219 (211.8)	+2 to +8 (+4.6)
5 ♂ Guatemala	205-221 (214.0)	+3 to +10 (+7.6)
<i>C. f. letonai</i>		
8 ♂ Honduras and El Salvador	195-209 (202.0)	-4 to +5 (+2.0)
<i>C. f. monilis</i>		
12 ♀ British Columbia, Washington, and Oregon	209-224 (216.5)	-3 to +10 (+5.4)
4 ♀ California	208-218 (213.5)	+1 to +15 (+7.5)
<i>C. f. fasciata</i>		
10 ♀ Colorado, Texas, and New Mexico	200-215 (207.2)	-2 to +7 (+2.6)
14 ♀ Arizona	198-208 (204.3)	+1 to +11 (+5.0)
4 ♀ Mexico	200-204 (201.5)	+2 to +4 (+3.3)
5 ♀ Chiapas	202-213 (206.6)	+1 to +9 (+5.5)
2 ♀ Guatemala	204-207 (205.5)	-2 to +4 (+1.0)
<i>C. f. letonai</i>		
5 ♀ Honduras and El Salvador	191-207 (198.6)	+3 to +4 (+3.5)

Museum of Zoology, Ann Arbor, Michigan, October 10, 1942.