The Feral Domestic Pigeon

Columba livia

by Wilmer J. Miller[1]

Birds that we see in their natural habitat may be beautiful, interesting, thought provoking, and delightful. There is one species, the domestic pigeon, now spread world-wide that has been long domesticated, perhaps for 4,000 years or more! It has provided food, fertilizer, entertainment, message delivery, and an increase in biological knowledge. Its genetic variability is rivaled by few other species among the higher animals (Drosophila, mice, chickens, . . .)

For bird watchers such as Clube de Observadores do Aves (COA) and Audubon groups, these escapes from breeder's pens that we call feral (wild, but from domestic stocks) are ever present in those artificial canyons we call cities and in those smaller cliffs and caves called towns. Such feral pigeons should not be ignored, but should be noted in counts and listings. Where else can you find such instructive variability in a wild bird?

Size is not always a trustworthy clue for sex in pigeons. But the sex of mature individuals often can be noted by their behavior. In courtship, the male will prance about the female, usually with an inflated crop and cooing with some head bobbing. Often he will suddenly drag his tail in a sudden move foreward. If she is "ready" she also will prance in smaller "mincing" steps and some head bobbing. Ritual-like partial preening of the feathers between the wing tip and the rump can also occur, especially in the male as a prelude to copulation just before the female goes into a sex-crouch with shoulders raised. In display flight the male will clap his wings rather loudly. Usually the male leads the female in flight.

COA and Audubon members should learn the colors and patterns evident in pigeons. What are these variations often seen?. . . Red, blue, black, white, gray, grizzle, pied. . .are all commonly seen colors plus the much more rare yellow and many more that are more difficult to describe. But let's be more exact.

Patterns[2] of pigment distribution are most immediately evident. The wild type is blue bar (2 black bars in the bluish wing). In the hand, or through binoculars, you should also note the whitish rump and perhaps you can see the whitish outer tail feathers on each side of the spread tail, which has a near terminal black band. The genetically dominant black or spread pattern is self evident black all over, including flights and tail feathers.

Another pattern type is the gazzi white pied with a colored head, upper neck and wings and tail, but a white back, breast, and ventral color. It is recessive to the wild type and rare in ferals. White flights is rather commonly seen in feral pigeons. It is sometimes associated with a white ("bald") head, and has a bit more complicated inheritance.

White pigeons can be seen feral (one kind is recessive); but most often feral white birds are pied (piebald) with scattered patches of pigmented feathers. While the inheritance is complex, it is some kind of partial dominant in effect. Grizzle is a codominant with white streaks on the head and neck and often elsewhere when one dose of the mutant is present.

Colors: There are 2 kinds of red. One is a recessive red with dark gray edges about the tail and rump and a bit in the wings. It covers up (hides) pattern types and some of the other colors. So it is called epistatic in genetic terms. This recessive red is uncommon in the feral state as are most of the recessive mutants. Rather common is the sex-linked dominant ash-red. The otherwise bluish "ground" color is gray-like with reddish tones. The bars are red. When ash red is combined with spread, the entire bird is gray or ash color with only very faint red showing sometimes in the mongrel birds.

Allelic to ash-red is brown (called chocolate when combined with spread). Brown is recessive to ash-red or blue. [Female birds have only one dose of sex-linked genes (are hemizygous). Males heterozygous for ash-red and blue have black specks especially in the tail and flights. So, if you see such an ash-red pigeon with black flecks, you know it is a male. Males heterozygous for ash-red and brown have brown flecks.]

Also sex-linked, but at another locus, is dilute. It is recessive. Combined with either type of red, it is called yellow (and ash-yellow).

Still another locus on the sex-chromosome is almond (or magnani). This is a codominant, and as a single mutant drastically mixes red, brown, blue, black, and white specks and patches. Two doses of this gene is detrimental with bulging eyes and poor vision, as well as near white plumage. Almond is not common in feral pigeons.

Two other color mutants in feral pigeons are smoky and dirty, but they have small effects more difficult to notice. For example, smoky gives a paler base to the blackish bill plus no white in the outer tail vanes.

These are the colors most likely to be noted in feral pigeons. Many others can be seen in fanciers lofts. Some of these are faded (allelic to almond), pale (allelic to dilute), reduced, opal (dominant and recessive types), indigo, milky, pearl eye, and more. On rare occasions you might see also a crest or grouse legged bird.

Combinations of color mutants yield many more interaction colors, with many beautiful effects. Visit one of the pigeon shows or fairs to see some of these.

Now, what are the colors and patterns in your neighborhood? What is their frequency? Such data could result in a scientific paper! [For example: Frequency of colors and patterns of feral pigeons in Belo Horizonte or Des Moines.]

[1]Pesquisador Visitante, Depto Zootecnia EV-UFMG, Caixa Postal 557, 30161-970 Belo Horizonte-MG, BRASIL
e-mail: wjmiller@oraculo.Lcc. ufmg.br
w_miller@molebio.iastate.edu

[2]I obtained most of my genetic information about pigeons from Dr. W. F. Hollander, now retired from the Genetics Department of Iowa State University. I confirmed much of this information in my own experiments at the Univerisities of Wisconsin, California and ISU. Dr. Hollander and I have published several scientific papers together.

Recent Reference: Johnston, R. F., and M. Jani, 1995, *Feral Pigeons*, Oxford University Press, p. 320 [good bibliography, etc., but poor genetics]

Editor's note: Dr. W. Miller is one of the founding members of the Big Bluestem Audubon Society and is spending a 3-year sabbatical in Brazil. Some of the technical jargon was deleted. If you are interested in checking out feral domestic pigeon colors and patterns, please contact Dr. Miller in Brazil.

Did you know?

Some owls have fringes on their primary feathers to enable silent flight. But, this isn't so its prey won't hear the owl, but so the owl can hear its prey!