

DOWN COLOR IN RINGNECK DOVES, Streptopelia risoria

by

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Few of us pay attention to the down color of the newly hatched squab. For one thing, we don't wish to disturb the parents unnecessarily. Even with ringnecks there is some danger of the parents mashing the young or dumping them out of the nest to die. However, this probability is not significantly high for most pairs of ringnecks, and the newly hatched can be safely removed from the nest for examination if they are replaced within 2 or 3 minutes.

We take records twice a week in our ISU dove colony, usually on Monday and Thursday. We candle newly laid eggs for fertility, make sure each nest has sufficient hay, record laying and hatching dates, and classify colors as soon after hatching as possible. This gives us research data on almost all squabs, both the ones that are fledged and the ones that die or disappear before fledging.

We had generally observed that the down color of those destined to be wild type (dark) was a brownish-tan, perhaps a bit darker over the back. The blond (dilution) was a lighter shade of tan. And whites had such sparse down that the color was difficult to identify, but which may be a very light yellow. Albino down was even more sparse, and we were unable to decide whether its color is white or light yellow.

The newer color mutants brought new down colors. Rosy doves also seemed to have rather sparse down, but not as sparse as white or albino doves. The down appeared to be a light tan color. Pied represented a change; the down of piers was yellow! Sometimes even very bright yellow. An ivory had white or whitish down, although it also was a bit sparse. We assumed that the variation in the degree of yellow and white was due to blond versus dark background. Thus, pied implied yellow down, and ivory implied whitish down. That is, in genetic parlance the mutant color genes had pleiotrophic action.

Imagine our surprise to see bright yellow down on a blond (or even a dark) squab! We were further startled to see white down on blond squabs, or on dark or blond pied squabs! The color varies so that yellow may be bright, ordinary yellow, or light yellow. The white may be very white or whitish, distinctly different from dark or blond tan down.

Evidently, when we mixed different stocks to get various combinations of adult colors, we allowed the various down color possibilities to segregate and assort away from the feather color with which they were originally associated. That is, down color and feather color control were independent of each other. White versus yellow down has segregated in 3 families. Tan versus white versus yellow down has segregated in 4 families. But usually the alternatives are normal versus the yellow or normal versus white. Since eight ivory pied birds have had yellow down, ivory doesn't hide yellow.

We did not notice such recombination until nearly two years ago. And of course, most squabs still follow the expected: if pied, then yellow down; if ivory, then white down.

We are just now starting to mate adults whose down color is recorded. It will be sometime before genetic data clarifies the situation. Meanwhile, a summary of our unexpected results is given in table 1. Some combinations have yet to appear, and our numbers are small.

Meanwhile: ARE YOU WATCHING THE COLOR OF DOWN ON YOUR SQUABS?

Table 1. A sampling of down color in newly hatched ringneck doves, Streptopelia risoria, and in hybrids derived from dwarf turtle doves, S. humilis. Normal or wild type down is "tan".

Adult Phenotype	Squab down Phenotype	Ringnecks	Species hybrids with <u>S. humilis</u> ; backcrosses and <u>inter se</u> matings	Total
Dark	yellow		1	1
	tan	8	13	21
Blond	yellow	9	12	21
	white	4	3	7
	lt. tan	13	12	25
Dark rosy	yellow	3		3
	tan	1	1	2
Blond rosy	yellow	4	1	5
	tan	1		1
Dark ivory	yellow	2	1	3
	white	2	4	6
Blond ivory	yellow	4	4	8
	white	7	3	10
	tan	1		1
Dark pied	yellow	14	1	15
	white	3		3
	tan	1		1
Blond pied	yellow	33	6	39
	white	3	1	4
Ivory pied	yellow	6	2	8
Ivory pied rosy	yellow	1		1
Pied rosy	yellow	6		6
	tan	2		2
Albino ivory	yellow	2		2
Albino	white	1		1
White	yellow	2		2
		133	65	198

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