
Isabelle


Ribbon tailed Ash red


Light Andalusian Swift

# PIGEON GENETICS NEWSLETTER EMAIL VERSION NOVEMBER 2005



DAVID WRITES:

Paul, the tumbler my pigeon-pal used for the Nun cross was a self – again, sorry I did not specify that part. I suspect there are a few more things in the Baldhead (show) Roller gene pool than the obvious ones. I have raised more than a few near-miss Bhs out of selfs, including white tailed birds. I've also had more than a few pairs of white tailed birds together that consistently produce mixed-tailed birds. At least in our Bhs, the white tail seems to be dominant or at least it goes along with either Bh or Bib.

As for the belly and flanks, the belly is easy to get white. The flanks are not and there is a very strong tendency for a correlation between flights and flanks- the majority of Bhs with white flanks tend to be over-flighted or white-sided mismarks to mate to under-flighted or badge marked birds to compensate.

One other factor that seems to be in the mix is what I consider an "anti-Bh" gene that effects the head and/or rump and tail. Some (not all) Bhs with correct marking everywhere else can still have some stray colored feathers on the rump or head, or have a colored eye. Example – I have a BlBar Bh cock with a Bl barless hen. Both well marked except that the hen has a few colored feathers on the rump. Otherwise both bull-eyed, good bibs and so on. First round of babies, both have about 10 colored feathers on the head. Clean rumps and tail, though. This fits in with the flights/flanks relationship and embryologic development (things happen laterally and cephalocaudal). The Bh and other pied genes tell the cells to stop migrating before they get to the outer limits of the embryo. The anti-Bh gene says "keep going".

EDITOR:

David, I know that the practice of mating under marked to over marked is rampant and does produce some "acceptable" phenotypes but it is NOT a good practice. All that is being done is providing a pool of undermarked and overmarked traits for future generations. The best practice is to choose parents that are the phenotype we want (or a near miss) and select the best of the best to provide a better and better pool of traits.

Having said this, I recognize that there are some "traits" that we want that is not and never will be stable. Thus the under marked X over marked will continue for these. But here also, one must continually select to get as near the phenotype as possible.

EDITOR:

Some of you may have heard that I am getting out of pigeons. That is not true but I am reducing my breeding flock to around 100. I plan to keep about 70 research birds and about 30 White Homers. Thus I will be getting rid of a bunch of nice birds including most of my white Homers (also have some nice saddle marked Homers), frill stencil Rollers, Baldhead Rollers, Archangels (both Black and White wing, also have a few brownwing and Dom. opals), Thai Laughers (Arabian Trumpeters), most of my rusty Roller/Vienna Street pigeons, most of my Egyptian Swifts, some Brander Bronze Show Tipplers, Starlings, Suabians, Czech Tumblers (clean-leg), and misc other birds.

I plan to have all my "surplus birds" gone by the 1st of Dec.

BOB McKEE EMAILS:23may'04

Lots of funny weather lately. Just a quick summation of the fantail Genepoole. Great guns! And these fellas are TYPE and color conscious. We dub them Mutant Sixers, where a Sixer is a typical Fancier that wants to Win!

You are aware of the Genepoole URL (e is for Jim Ervin and his page…Have you seen this Page? The rcbc.. Ralph Smith, you coached for over a decade is really coming along…He calls bk kites 'mimic blacks' great term loving it and using it.

Thanks for the input…We consider you the Fancier of Coloration…and hey…thanks for your Friendship. You can't imagine how that Ts1 = mod bronze has pushed us ahead. But I see bshek and Lance have joined forces…bshek goes back to our days when PGNL was working. Listen, I am going to keep you in this Loop…hell, Paul..it has been your input anyway.

PAUL ROGERS EMAILS:23may'04

Paul, I've been raising Pensom Rollers for over 40 years. After the first 5 years, my breeding lines settled down to originating from just 7 of those birds. These lines were bred for the next 25 years (minus a few years when they weren't bred), when a few Pensom strain hens were brought in as outcrosses for a year or two and then sold. The point is that even though I primarily breed for performance and not color/markings which go their own way, my family has a limited gene pool. (One of the outcrosses seems to have carried ember.)

That said, badging is very common in my family. White does tend to spread. Badges together produce mostly badges, though some will be whiter than either parent. Baldheads are rarer than I'd expect if Badge was just a hetero Baldhead. I get intermediate forms, which I attribute to "white spreading". I get near balds with just a spot of color, usually around and eye, which are pearl/yellow eyed. So it isn't surprising I've raised badges out of balds, even a bull eyed bald pair I'm now using as feeders. (White spreading in badges masquerading as balds reverting to badges?) And one of their bull-eyed bald youngsters has a drooping bib that bleeds white down to the belly –

more white spreading. I'd breed it to a badge if I wanted a show bald, but I don't breed for show at all.

I also have lots of beards. There are two areas here. A small area just below the beak, but you need white cheek patches too to have a perfectly white semicircular "chuck". But they seem to be independently determined.

Years ago I drew a map on the head of the common pattern areas. 19th Century tumbler fanciers had quite a complex pattern they considered a perfect standard badge. There are cheek spots, the "rice" spot of white over the eye, the snip, cap and crown. And there does seem to be a dividing line from the corner of the mouth, under/through the eyes/ears, and around the lower edge of the back of the skull. These various area are most likely either white or colored in total, sometimes possibly encroaching upon by white spreading. Makes some sense when you consider how areas of the body descend from different stem cell lines during embryogenesis. I get quite a few which are solid colored head with just a white crown strip across the back of the head from ear to ear (which would be striking if they were shell crested).

This propensity for white to spread is certainly interesting. It isn't allowed in traditional genetic theory. "Greedy genes" that tend to cause mutation in genes which color adjacent areas? Naw! There's got to be a decent explanation.

EDITOR:

Thanks for your comments on the "whitening". It goes well with the article in last months issue.

"Greedy genes" – that is a good term. You state that there's got to be a decent explanation. Well, maybe there is. Years ago a young grad student (I believe her name was Staples-Brown) came up with a gene in corn which she called a jumping gene. What it did was (it produced red grains) to somehow mutate its companion gene (allele) so that ALL future corn was red grained. The allele did not resurface! This is a little more drastic than white spreading. I think that the white spreading can probably be attributed to genetic drift or some such mechanism.

ANTONIE FARINHA INQUIRES ABOUT ICE COLOR RACING HOMERS. MICHAEL SPADONI REPLIES:

The quickest way but not the cheapest is to import some show Racers from England, there is a particular strain that was cultivated by Douglas McClary that are very good colour. Getting the flying ability back won't take long using these either as they are a dual purpose bird.

EDITOR: Picture sent shows a very nice Ice coloration. Does have a couple white flights but that is ok in Homers or can be selected out.

ANNE ELLIS WRITES: EXCERPTS

Seraphim appear to be splashed birds but they are actually shield marked and tail marked just like Old Frills. Years ago Dr. Hollander suggested that it is important that they are genetically white bodied birds. Eventually I discovered that he was correct.

I did not select against color that occurred on the body and after many years, I began to raise Seraphim that were almost entirely red (or yellow). Some of those birds became entirely white except for a spot of color on the back of the neck. I began to select for birds that turned completely white and over time, I stopped having birds that were born almost entirely colored. The birds proved that Doc's theory was correct.

Dr. Hollander gave me some birds to use in my research project on the Seraphim. It was demonstrated repeated that the gene that causes the shield to turn white is separate from the gene that causes the tail to turn white.

Did you know that you can cross your Old Frills with your Seraphim? The result will be a bird that looks like an Old Frill but carries the genes to produce Seraphim babies. If you put a half breed baby (called an AIM bird by Ralph Marrero because he said they are birds aiming to be Seraphim) with a Seraphim; the result will be that half of the babies will be Seraphim and the other half AIM birds.

S. CEASAR WROTE:

This chick came out of a pairing of Od Bluebar, white flight cock and a yellow splash hen. The color looks brown to me. If this is a fact, then the cock is split for brown and this chick has got to be a hen? I have difficulty differentiating browns from red.

STEVE SOUZA REPLIES:

Are you breeding in individual pens? The reason I ask is because this young bird DOES look to be brown (notice the tail bar which helps to differentiate between brown and Ash red). It appears to be intense, with no Dom. opal…AND…it appears to be T-pattern. Neither of the parents you describe can be contributing a T-pattern to the mix…

S. CEASER WROTE:

This chick is from a pairing of a blue T-pat cock split for reduced and potentially rec. red and a rec. yellow hen. I assume this chick is reduced and therefore is a hen. Is the base color a poor expression of rec. red over blue?

STEVE SOUZA REPLIES:

Ron Huntley would be a good one to answer this one as he has a lot of experience with reduced…but this looks like what I'd expect a reduced Blue T-pat to look like. The washed out grey color of the tail [basally] and flight tips is consistant with reduced and although the T-pattern looks slightly orange in your picture that's also possible with reduced.

EDITOR:

The brown youngster may not be T-pat but just juvenile check. The reduced young shows rec. red bleeding through the Blue which happens on het rec. red reduced.


brown


reduced Blue carrying rec. red

RALPH SMITH WRITES:

Antonie, I have moved the ice color from Damascenes to Fantails. There is a lot more to moving this color than you think. It's similar to Toy Stencil in that it has 3 factors that make it up. The way I found best to transfer the color was to make the cross. Take the young and mate back to ice. When these produce ice, pick the best one that looks most like the direction you want to go in and use these to mate to the breed that you want to move it into, and repeat this process over and over again. It's slow but it works. You only get ¼ steps instead of ½ but you have a lot more to drag to get the full effect of the color. And I tried other ways and believe me this work the fastest to move the color. Ice is hard to do and few people have actually done it. But I do have Ice Fantails. And I started in 1990 so you can see it takes a lot of time. The cross you are talking about should move faster from Damascenes to Homers. Let us know how it turns out?

EDITOR:

Ralph is correct that it take a lot of time to move ice to get good coloration. There are a couple helpful hints to consider from the start. When starting to move the gene into Homers – make sure the Homer parent does not have a sharp color delineation at the breast or if Ash does not have a crop crescent. Use one that has smooth lighter blue (or Ash) color from the head through the belly, This will aid in the clear neck and crop being ice and not have a crescent in this area. As Ralph says there is more than one 'ice' and the whiter ones take longer to establish. One gene produces an 'ice' blue coloration and was seen in many of the older Ice Pigeon lofts. The other 'ice' produces more of a snow or white color that is seen in the Damascenes. Although these 'ice' genes are listed as dominants they are partial dominants closer to the recessive end. When crossed to Blue, the resultant young sometimes cannot be separated from Blues not carrying Ice. I have seen light Blue Homers that I feel sure already have the ice-blue gene in their geneome.

JAMES GRATZ EMAILS:

While we are on the subject of various pied, here are pictures of hetero gazzi, hetero rec. white. z//zw They are alleles aren't they? This one is typical; mostly white flights, mostly white shield, mostly colored tail and 50/50 head. Two of these will produce well marked gazzies, bull eyed whites, and more of these. Most breeders cull these as overmarked gazzies but they are useful once one knows what they are.

FRANK (T.O.M.) ANSWERS

Yes, James, these two genes are alleles of each other. Sometimes in Modena circles you might hear one refer to these birds as a Gazzi White that are z//zwh. And I am in the opinion that a lot of modena fanciers don't know how these marked birds should be used in breeding lofts

MICHAEL SPADONI EMAILS:29may'04

Thanks, James, I was very curious on seeing these pictures. If we are to accept the z &z*wh are alleles, the mixing of the white shouldn't occur? Because it's one allele or the other not both simultaneously as we can see in these F1's

Unless at that locus some or all of the alleles have no order of dominance so express equally? (Neither dominant or recessive to each other.)

What about the pied markings on the z locus, are all different expressions of the same gene, some of these expressions are listed below. Some form of additional modifier genes need to be present to alter the where the pigment is blocked or added? +, **Splash, Gazzi, Wing, Shield, Nun, Helmet, Tailmark, White.**

So if this was true a Gazzi to Nun, I will cross a pair of these to see what the F1's are, I suspect that they will be an intermediate of the 2 pied markings confirming that they are also alleles.

Is my thinking flawed?

Note how close the first zXz*wh F1 is to a Helmet marking. The tail is always last to go white, I have found this also in the study I have been doing on Splashes, Tailmarks, & Whites in Bokhara Trumpeters.

PAUL G. ROGERS (THIS PAUL G. SHOULD NOT BE CONFUSED WITH THE EDITOR WHOM SIGNS HIS EMAILS PAUL G.)

+, Splash, Gazzi, Wing, Shield, Nun, Helmet, Tailmark, White.

Be cautious attributing a gene to every effect, even if it appears to be reproducible, especially within a breed. Personally, I think most of the white patterned breeds are the result of MANY genes.

As we recently discussed with the production of the Ice Racers, we can take single genes, carry them heterozygously for many generations, and on demand [or accidently] pop back a true homozygote. Trying the same sort of trick doesn't work when you need homozygosity of several genes.

EDITOR:

I agree wholeheartedly with Paul Rogers on this issue. I believe that some patterned breeds are the result of several genes. Also, I believe many of the pied genes may be linked; but definitely they are programmed at different sites on the chromosome.

There are a couple areas to think about. First, I am definitely of the opinion that gazzi and some recessive whites (at least) are not alleles. I have reared birds that look like the above two Modenas (although not e//e) from perfectly marked gazzi German Modenas. Although gazzi markings do vary some, that is too much latitude for a pair to be homo gazzi and yet breed a near white (intermediate?) if they are alleles.

Another problem with the above pictures is that they are e//e gazzi. Does e//e mess up gazzi that much or are there other factors that are changing the e/e gazzi marking?

Are those listed above gazzi alleles? Not by any stretch of the imagination. Most of them are unrelated except for probably being on the same chromosome and are pied marking.

For instance, my research with the Baldhead Roller shows that that breed is made up of at least three separate but probably linked pied markings. The white head or Bh marking is a partial dominant, the white wing flights are dominant, and the tail white is recessive. These can be selected and bred separately although the three together produce a nice phenotype.

Research with the Helmet and gazzi indicate that these may be selections of the same gene. I also have data that separate most pied patterns away from the gazzi. Although Dr. Hollander had me publish a chart showing several genes such as Undergrizzle, flash grizzle, pencil, rec. white and gazzi; he did not have flash grizzle in his breeding program. What he had was Undergrizzle and Undergrizzle is NOT an allele of gazzi. Neither is flash grizzle which is a recessive. Pencil and gazzi have been batted around as possibly alleles and it is my opinion that they also are not alleles but are linked.

Although I did not get as much done this past season as I had planned; matings of Penciled Breast Pigeons (which are gazzi marked) to wild type produced young that could be phenotypically determined as hetero pencil. These mated together produced heteros, wildtype, and a few penciled gazzi marked.

Just because two pied bred together produce an intermediate is NOT reason to conclude they are alleles. This merely shows that both pieds compliment each other or one is not dominant to the other. This frequently happens when breeding pied together.

One way to help determine whether pieds are alleles or linked is to mate each to non-pieds and mate the F1s together. Even this is subject to a lot of heavy thinking and may not reveal the true nature of their relationship depending upon whether the pied gene is dominant, partial dominant, or recessive.

MICHAEL SPADONI WRITES:30MAY'04 EXCERPTS

I have recently seen 2 cases of B1 Nun crosses being bred with perfect Nun markings, if it wasn't the one gene, I would have expected to see young with separate components of the white that makes up a Nun such as white shields.

I agree that there are some additional modifiers that help clean up the markings, but at this stage I still believe the main recessive pied pattern gene is the same that has been selected for the specific marking, if they were separate alleles we would see no mixing of the marking, but from early reports they are intermediate of the 2 markings.

Like James Gratz's gazzi (z) to white (z*wh) mating F1 are intermediates.

Another gene on the z locus is splash, I am at the moment studying this variation, below are some of the splashes found in Bokhara Trumpeters. They all have the basic pattern just the amount of white varies. The white starts at the boots, the primary flights & the chest (crescent mark) the amount of white varies from these 3 points. The last thing to go white is the tail and rump, tail marks are common when breeding pied in Bokharas.

This similar pied marking seems to be common in several other breeds in Europe?

Dark splash

light splash

These two were bred out of a pair of selfs.

Tail mark, (note Undergrizzle, another z allele)  Parents were splash X white.

EDITOR:

Michael, thanks for the pictures. Concerning the Nun crosses – it is entirely possible to produce the same marking with linked genes which, of course, are transmitted as if they were one and you have to get a crossover to determine that they are not linked.

Splash is part of the pied group and I do not believe it is at the z locus. Very possibly it is on the same chromosome though.

You state that splashes have the basic pattern, just the amount of white varies. I believe you are right in this thinking. Many of the Trumpeters, Pouters, and Croppers have things in common. They all are prone to have the crop crescent which is inherited separately from the splash. Many of them have very similar splash markings. I think the progress of whitening is a little different than what you have depicted? Usually the splash is variable on the body. The white flights are very probably independent of the body whitening? And the leg whitening goes along with and probably is part of the white flights trait.

You state that the last thing to go white is the tail and rump. I found that to be true of several of the migrational whites.

Last but not least, the tail mark does not quite fit Undergrizzle, being closer to flash grizzle? May be a new expression?

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A successful rancher died and left everything to his devoted wife. She was a very good looking woman, and determined to keep the ranch, but knew very little about ranching, so she decided to place an ad in the newspaper for a ranch hand. Two men applied for the job. One was gay and the other a drunk.

She thought long and hard about it and decided to hire the gay guy figuring it would be safer to have him around the house than the drunk. He proved to be a hard worker, knew a lot about ranching and put in long hours everyday. After two weeks, she said to him, "you've done a really good job and the ranch look great. You should go into town and kick up your heels." He agreed and went into to one Saturday night. He finally returned

from town around 2:30am. She quietly called him over to her. She said, "Now unbutton my blouse and take it off" Trembling he did as she directed. "Now take off my boots." He did as she asked ever so slowly. This continued one piece of apparel at a time until the last item of her clothes was taken off. Then she looked at him and said, **"If you ever wear my clothes to town again, you are fired."**

MICK BASSETT SENDS: 31MAY'04

Here is a pic of a Red Mahrische Strasser to go with the standard . Amazing color, the deepest red I have ever seen with an incredible sheen. And a group of "Stassers" in a show aviary.

STEVE JARVIS EMAILS: 3june'04 (The G factor, not the typical pepperhead.)

Paul, I hope these go this time. Can you enhance them? First photo is older half bro to #2. 2& 3 is same bird late hatch 2003, 3&4 are 2s sisters. #1 has a S, dpale, no grizzle showing, but some light pattern showing in wing shield. Could still be like brother but spread covering up poor G expression?

[Steve, I could not tell much from the photos except that only the last two look Spread. All except these two have grizzly bellies reminiscent of Undergrizzle and a couple have slight pepperhead. What were the color of the parents? The last one shows smoky in the beak.]