

# The Pigeon Genetics Newsletter, News, Views & Comments.

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## "YOUR GUESS IS AS GOOD AS MINE"

There probably have been times when you have asked - 'What colour is this bird?' and then found yourself frustrated when someone you thought was an 'expert' could not give you a satisfactory answer.

The reasons for that are just as plentiful as the wide range of colour effects known to the Pigeon Fancy!

You need to understand that as far as "COLOUR" is concerned , there are ONLY THREE BASE COLOUR PIGMENTS. They are Black , Dominant Red , and Chocolate Pigments. When added with the PATTERN series , we refer to them as : blue/Black., Ash-Red, and brown/Chocolate.

Everything else that we see on Pigeons is the result of 'MUTATIONS', that are at other loci (locations) on the Chromosomes that alter or change how we see the three Base colour series.

Pigeons are born either naked or covered in varying lengths and thicknesses of hair-like structures. Even these hairs may be whitish , or more yellowish in colour depending on the base colour and other modifiers that affect them. Sometimes certain relationships can be determined with experience but just when we think we have a KEY as to making an exact identification , there is an exception that will mess up everything! Generally speaking, the first feathers to emerge tend to lack strong pigmentation. It will not be until the first moult that we will actually see exactly what colour effects we have . The Base pigments are usually easy to

determine, but the modifiers may be a bit more difficult to figure out. The need to know the pedigree of each bird MAY be necessary in order to make an educated guess as to just what is going on genetically speaking.

You will often hear people say that from their EXPERIENCE as BREEDERS they SEE or KNOW certain things for sure , but often they simply do not. They are making judgements based upon false understandings right from the start. They think they are working with certain genetic traits when in fact they are not.

Some modifiers will cause very similar phenotypic effects and therefore it is necessary to be able to trace them back a couple of generations to see just where they began . Recently on a Facebook Group by **Walter Wojcieski, Rob Grogan** posted a series of photos of a Stipper (Almond) Tumbler male that had gone through several dramatic colour changes. One fellow made a colour identification of 'Almond Splash' based on the early photos. However the bird was not an Almond splash at all. It moulted out to an evenly distributed bronze foundation without the white break it expressed as a young bird. The black flecks became mixed with the influence of hetero recessive red. Here are those photos .



It is difficult to believe that this is the same bird, but it is ! You can easily see some of the areas that were completely de-pigmented by the Stipple gene producing white break, that in turn gave way to more expression of the bronze enhanced by hetero recessive red. Eventually the base pigment will undergo further reversion so that less of the bronzing will be visible. Every stipper Almond is somewhat different, with no two ever being exactly the same. There is a great deal to take into consideration and keep track of in their genomes with all of the various modifiers. Added to this is something scientists refer to as CNV. "Copy Number Variant". Each bird may have a different number of copies of factors that affect its phenotype. These may reveal many hidden secrets that will prove whether OR not each bird is actually an Almond, one of its alleles, or not a stipper at all.



Here is an Indian Fantail Pigeon presented to me by **Jonventry Pigeons**. It appears to be a dilute blue/black ( Silver) dun bar.

It also displays a few characteristics of smoky factor (sy), which are : a wide terminal tail band and narrower sub-terminal tail band. It has silver flights rather than tan colour, that we would expect on a brown series Chocolate bird. The wing bar pattern is wide and blurred looking, which also is a trait of smoky and there does not appear to be a full whitened (albescence) strip

on the last tail feather. A contradiction to smoky is the whitened back and partial cushion, this area is usually darkened (no albescence).

Many of you probably have thought also that you feel the above bird is Sooty (So) , but is it ? Keep in mind that Sooty darkens the center most portion of each shield feather. This bird has what appears to be a very light expression of a checker pattern influenced by smoky factor.



Here is a similar extreme light checker pattern on a Racer by **Mitul's Pigeons**. This bird is not smoky or Sooty but does express a third bar as part of the checker pattern. The coarse spread on the shields is almost not expressing at all on the outer edges of each shield feather.

Recently there was a discussion on a Facebook Group showing a blue barred stipper ( blue Sprinkle), that some felt was a Sooty factor bird. There were a few slight black flecks expressing here and there on the primarily blue shield feathers as they reverted back to blue replacing white stipper break. What seemed to be the problem was that the commentators did not remember that Sooty factor also darkens with the age of the bird , so that IF the bird was undergoing reversion of the blue shield it "SHOULD" also be showing much more Sooty expression. which it was not. Some of the darker flecks are most likely third bar pigment.



Photo - **Shabin Shajahan**

I could not find any evidence of Sooty expressing in the feathers of this bird. Stipple whitens Sooty , but it reverts to black centers and increases with age.

Bob,

Thank you for the bulletin, I enjoy reading it immensely.

Just thought I would send some pictures of a project.

Trying to maintain as many specimens of some of my favorite mutants as possible I have been combining them on birds. Not particularly impressed with extreme dilute I had given all but one specimen away to make space for other mutants. The one cock I kept was a red check racing homer heterozygous extreme dilute ash red and heterozygous blue reduce. This HVR racing homer mated to a blue bar hen.

The first baby produced was an extreme dilute.

As the bird developed, it became apparent this was not the typical extreme dilute ash red. I suspected it was also reduce. As it has matured and produced ash red reduce males when mated to a blue reduce cock, I am bratty confident. I will mate two of her ash red reduce sons to blue bar hens in the spring and am expecting more extreme dilute ash red reduce females from them.

Curious about your impressions.

Sincerely,

**Joel Kinkade**

The first pictures on the previous email #(1) here, were of the hen in juvenile plumage prior to adult molt. These pictures start with her adult feather # (2) alone on a perch, {then } a picture of her {with her} mate, and individual shots of two of her sons from this mating.

Her mate is homozygous blue reduce, heterozygous dominant opal and heterozygous grizzle on check. One son is ash red reduce dominant opal check, the other is ash red reduce dominant opal grizzle on bar.



# (1).



# (2).

Hen as juvenile , then as an adult . ( reduced extreme dilute ash-Red ).

Hen with her reduced mate.



Ash-Red reduced dominant Opal checker., Ash-Red reduced dominant Opal Grizzle Barred.

My response :

{The mature hen is certainly not typical as far as anything I have seen previously. I have never worked with either reduced or extreme dilution, and obviously cannot be of any help with them combined. What you describe is most likely what you will get a percentage of in the tests back to blue bar. They fit in with what I have been talking about as far as phenotypes becoming very 'pigment depleted' and thus much more difficult to track or follow. I would like to add these and your descriptions to the Oct. Newsletter if that is ok with you. I would never have guessed either dominant Opal or a grizzle involvement, of course you have an ' in the hand' advantage on that score. They certainly are interesting and attractive. All the best ~ Bob.}

Bob,

yes please use as you think best.

In hind sight growing up with my father being good friends with Doc, Gibson, Hendricks, Quinn, Rinehart, Mangele, Blaine, Pettit and others was a true gift. They all were excellent teachers and never treated me as other than a pigeon guy even though at the time I was a young kid. That association has given me nearly 50 years of experience with reduce and many other mutants bred down from the birds given to my father by the above mentioned gentlemen. The brown almond homers I currently have are bred down from a bird Doc gave to my father in the mid 70's. I still remember Willard handing it to my father in one of his lofts when I was 9 years old on a visit to Ames, IA...

Joel Kinkade  
Waterford, MI

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I have something else I can't explain. I know there are mutant copy cats and working with my other half's Vienna medium face tumblers has me believing I might have discovered at least one new mutant and possibly 2. Amy got into pigeons shortly after we met. She has her masters in BIO and grew up with her parent's operating an exotic animal import/export business.

Anyway, all the VMFT's in the States at the time were blue base. On a trip to visit John Heppner, the thought of adding ash red came to mind while looking at some ash magpie marked Berliner Langs. John gave me one to use for the project and I started making crosses to Amy's best blacks and blue bars. As the type improved and became more close to the Vienna standard I was pretty happy with the expression but suddenly had a realization, the genetic transference was not sex linked. It couldn't be ash red. For awhile I assumed it was just indigo, but after 10 or more years and many more combinations of other mutants such as dilute and grizzle I'm not so sure. In addition, our very dirty blue bars, which are referred to as stock blues are not dirty, as the Goshen project determined they were wild type at the dirty locus.

1st picture: Dirty blue bar= wild type at dirty locus

2nd pic: plain blue bar indigo?

3rd pic: same mutant as above but this is spread version and produces both plain spread blues and the barred Indigo? varieties.

4th pic: barred non spread version with grizzle

5th pic: barred non spread version with dilute

None of these are consistent with the expression I've seen in other breeds of the assumed mutants.

After 20 plus years, I cannot determine a non DNA alternative to identify this non dirty from dirty. I still haven't identified a visual marker to differentiate between the two...

Therefore crossing to wildtype unrelated birds at this point doesn't make much sense to me...



Dirty Blue Bar , = wild type at the Dirty { (V) } Locus .

Editors'. Note - { I do not have the exact mating information that has produced these birds, so perhaps we can have those details with a future update. I am not familiar with the "Goshen Project" , so perhaps we can have that material for a future issue also. }





Plain Blue bar Indigo? { Ed. Note } {This bird appears to be a dilute blue series bar pattern lacking a visible tail band not unlike the Incomplete spread factor birds I bred and reported on in this Newsletter back in the 70's . It would be interesting to see the mature colour and a spread out tail. The bird is obviously homo dirty , and may be smoky factor as well , I do not believe that it is Indigo.}



(1)Vicki Colpits , & (2) Bob R.

Both of these birds are incomplete spread factor but lack Dirty and smoky factors.



Same mutant as above but this is spread version and produces both plain spread blues and the barred Indigo? varieties. Ed. note { I see this as a Mealy., Ash-Red hetero for blue/Black with Dirty factor , smoky factor and possibly spread factor. I am curious to learn if this is also an 'incomplete' Spread factor Mealy and counterpart of the trait first identified by **Dr. Lester .P. Gibson.**



Barred non-spread version with Grizzle. Ed. Note { I see this as Dirty factor , smoky factor Print Grizzle.



Barred non-spread version with dilution. Ed. Note { I see this as a Dirty factor, smoky factor dilute ash-Red bar /Cream bar.

It will be interesting to read more about these birds , see update photos , and to hear YOUR opinions as to what you think **Joel** has going on here with these phenotypes.

That is it for another Month - Look forward to seeing all of you in the November Issue , Take care !