

The Pigeon Genetics Newsletter, News, Views & Comments.

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Doc. Hollander called this a "Genetics" Newsletter , but most often he avoided any "Genetic" jargon. He was a rather laid back fellow that enjoyed joking around and taking the whole subject of Colour genetics lightly so as not to discourage anyone from taking an interest and learning gradually. I believe also that he was quite aware of the fact that he did not have all of the answers.

I do not pretend to know the actual 'genetics' at the molecular level such as my colleague **Jith Peter** does., but I do understand what makes sense and that which does not! We, as a Hobby are still in the very early stages of understanding what causes most of the phenotypes we take for granted every day.

The Hobby has been progressing at a snail's pace over several Centuries , and the genes were named by fanciers just like you and I, with little more knowledge than simply that they saw it as looking LIKE some other expression they had seen before . Terms like Ermine ., Agate , Fire back ., blue , had no genetic basis , nor were they particularly specific or correct. They just allowed the breeders to set out an idea of what colour effect they were talking about. This still causes a great deal of confusion to this day!

The term "Ermine" is the name for a brown Weasel that has a white tip on its tail and a white belly and feet. In winter it changes to pure white with a black tail tip. Now that has absolutely NO phenotypic connection with a "Sprinkle" or "Almond"(St) locus mutation , but very early breeders looked at a dress coat made from many pelts of this animal and decided there was a slight resemblance in that the white dress coat had spots of the black tail tips all over the surface, and thus the name 'Ermine' for a St. Pigeon was coined.

Agate: This phenotype in Pigeons was assigned to recessive red and recessive yellow birds that expressed patches of white particularly on the shield area. However an actual Agate Rock is opaque white combined with translucent white areas. It also may have very different colours mixed throughout that actually are not agate but rather other types of rock formation such as Jasper.. Jasper usually is a very dark deep brick red. This may cause 'banded Agate'., 'moss agate' etc.

A fireback is simply a black pigeon that is expressing a red cast of bronze on the shields.

A blue pigeon is not actually blue at all ... it is a variety of shades of gray caused by the combination of scattered or clumped black pigment granules deposited in feathers with colourless (white) areas in between. Our vision interprets that as a gray colour which we decided to call blue many years ago, have never changed and not likely ever will.

The problem with some of these terms was that they did not allow room for other newer traits being discovered. These often cause breeders in different Countries or even areas, to use the previous terms to describe that newer trait. Examples of that are : Pattern, Solid, Self, whole colour, silver etc., that have become so widely used to mean different things that often we have no idea what people are referring to until a further explanation is given.

NOW is the time to begin sorting all of this out and establishing set terminology for every single trait presently known to the Hobby without any overlapping. We have many more mutations and combinations of mutations being produced. We will need much more wiggle room when it comes to naming all of the new phenotypes. We are much closer to becoming universal on most terms than some would like to have us believe as they dig in their heels against changing what they have always 'thought' was correct. Herein lies the problem which threatens overall progress! One other problem is that the various languages around the world do not have the same translations such that there is even greater confusion when it comes to saying exactly what is being described. The last point is also concerning different Countries and that is the matter of WHO has the right to name anything.

This leads us to the topic of how do we decide what is the correct and proper method to follow if we wish to establish a 'recognized' mutation , its name and subsequent symbol. You will see on facebook where someone may insist that there has been no official "REPORT" filed , no Peer Review ., and no data to prove a given statement regarding the function of a specific mutation. If we look back through the history of all Pigeon mutations , we will soon discover that one can count on one hand the number of traits that have actually been presented with any formally recognized Report. Associated with that is the fact that there has never been a Publication which has any scientific recognition for such Reports.

Traditionally , the person who first finds, or breeds a new gene, has the honor of affixing a name and Prefix symbol. A number of Reports on new mutations have been reported in this Newsletter Publication. Much of the research and findings of **Dr. Hollander** and **Dr. Gibson** have been first reported here in the past, as well as a Report on the Cherry Mutation by **Mr. Sousa** , and one on the Lal Band

Ghagra , Saffron (Saf) by **Mr. Jith Peter**. There also was one report presented on the basic mutations of the Ringneck Dove.

Usually when you hear someone demanding that a Report be filed / presented , or perhaps they suggest someone is "speculating" without any proof, they are simply blowing in the wind because they have nothing relative to offer, and want to somehow discredit the productive efforts of others.

Science is 'speculation' ! Take a moment to Google NASA., and what 'Scientists' postulate / speculate is going on in outer space!! It will blow your mind. Speculation is an 'educated guess' until proven either correct or wrong , whichever way you want to think of it!

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Now let's take a look at some Pigeon Phenotypes that have been causing you to wonder just what is going on genetically. We have talked about some of these or similar phenotypes before, and it is important to repeat that when judging from Photos , it is very difficult to be certain just what it is that we are seeing.



This is a phenotype that **Mr. Shoibal Sabbir** sent to me as he was a bit confused by there being three sex-linked factors all appearing on the same bird. That stems from the way people speak about sex-linked traits, as opposed to sex-linked 'alleles', an allele is an additional mutation at the same locus or spot on the sex chromosome. Any bird can express a number of sex-linked factors in its phenotype at the same time. However it cannot express more than two sex-linked alleles. A common example of that would be an ash-Red cock bird that also expresses the wild type blue/Black , OR the allele brown/Chocolate that is on the other chromosome. If Ash-Red, he cannot express BOTH Black and Chocolate .

In other cases we may have an allele on the second chromosome , but it is not expressed , or if it is , the influence is so minute that we cannot readily see it. An example of that would be Wild Type blue /Black Intense phase split for any one of its allelic mutated phases. There not likely would be any scattered feathers of the expressed lighter phases of Pale , dilution or ecru.

The bird **Shoibal** showed to me appears to be a Blue Bar Sprinkle with bronzing in the bars . Note that if it were an ash-Red split for wild type , all darkened feathers would be black and not blue. Since we do not have a better photo , and no information about its pedigree , we cannot be any more specific.



Photos from **Mr. Vivek Raj**.

Here is a somewhat similar phenotype , It is also an allele at the (St) Stipple Locus. These appear to be Qualmonds that are also expressing some bronze in the neck and wing shield pattern. These 'may' possibly carry recessive red which is common in this 'Barpan' Breed . In this case there is no St. allele expressing . The cock appears to be Dirty factor by the very dark head, but that may simply be lighting. The parents appear to be check pattern possibly T-Pattern , but three offspring are bar , so both parents would be carrying the 'autosomal ' (not-sex-linked) bar pattern allele.





Above is another one of these phenotypes that may be the result of any number of gene combinations. We need to know the parentage in order to be absolutely certain about the genome. At first glance one might say it appears to be a "Strawberry" spread ash masking either T-pattern or one of the other checker patterns. It could be spread ash hetero for recessive red but I think the tail would be darker gray. It could be spread ash-Red Indigo, or spread ash plus hetero recessive red ...etc.



Photos - **Mr. Jobin Venattumkary** .

and the same #1 photo by **Mr. Johnventry** of Johnventry Pigeon.

Jobin said the hen was Opal line , but I explained that Dominant Opal must show if present, the cock could be however , a combination of Opal and Andalusian (Opalusian) . Let's hear your thoughts!



Above is a photo of an Indian Fantail belonging to a friend of **Mr. Vivek Raj**. The bird is a female Almond and the question was pertaining to the blue/Black flecking . Here we have an example of what actually is a blue/Black base female stipper that very much resembles an Ash-Red that is carrying blue /black. However that would not be possible as the female cannot carry an 'allele' to base pigment on her second chromosome because female pigeons/birds., have a different second strand which is the 'sex' chromosome, so it does not match the first strand of the double helix. Males have matching strands which allows them to carry a different allele on the matching locus of the second strand. The red is mainly , if not completely due to a bronze gene. It may also be influenced by recessive red and/or Dirty factor. It appears to be a check pattern .



Photo by **Mr. Srk Shawon** .

Here we have a Pied Design that prevents us from seeing all of the key areas that help us to identify the phenotype., but it seems very likely that it is a blue/Black stipple factor cock bird with very limited bronzing. Some breeds do not have strong Kite or recessive red in their background, so making the typical 'Classical Almond" becomes a greater challenge. This could be a spread ash-Red male that carries blue/Black , but the size of the black flecks seems to suggest otherwise. One way or the other it is a lovely little Pouter.



**Mr.Porumbei Colorati** - This youngster is sired by a homozygot Faded and out of a (possibly) hemi Frosty hen that is reduced . He is awaiting mature feather and wanted my opinion . It has got to be Faded and sons will carry reduced, but the wild card is Frosty ??



Photo by **Mr.Arif Al Kamal** - The youngster is a spread ash masking bar pattern. It is not uncommon for the reddish pattern to show as the smooth spread ash pigment does not fully cover or mask the coarse spread pigment of the "C" areas of pattern. This reddish pigment may also be enhanced by other modifiers such as Dirty factor and a bronze factor causing a reddened trait. The dam is a black pied and the fact that there is one of each colour in the nest demonstrates that the cock must carry blue/Black.



He does not clearly express any black flecking 'ink spots' but usually older males that are hetero for blue/Black will. The youngster at top may not be a cock in which case she would be hemizygous for ash. She will not express any second colour allele as she cannot carry it on the sex-chromosome. If it is a heterozygous ash cock, it may well express black flecking as it ages. This then is referred to as a "Mealy" ( **Dr. Hollander**) for a Spread ash expressing blue / Black on the second chromosome. Clear pure ash - Red birds are named Ash-Red plus the pattern... for example an ash- Red Barred, or ash -Red checker.

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This was a Pigmy Pouter that **Mr. Jerry Sindelar** posted in Facebook in 2017. He developed the Breed with the stipper /Almond factor from Rollers. This was one of the birds that had just about everything he could hope for from the program. I am sorry to say that **Jerry** has decided after a very long career with Pigeons, to move on and do new things. He has left the Newsletter as well. He has been extremely supportive over these past eight years that I have been doing the Newsletter and sends his best wishes. **Jerry** is a well known and respected Pigeon Judge both abroad and here in Canada. We extend our best wishes to him and his Family.

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What are the factors that are causing very light coloring in this Spread Ash Red bird. 2nd pic is of parents - **Mr. Mohammad Atiq**.



My comment : Are you certain it is spread ash?... parents do not appear to be ash base. They all appear to be either Dominant Opal or reduced. The photos are over exposed so colouring is uncertain due to lighting.

**Mr. Atiq :** "I just presumed they are spread ash-Red due to their silver color and I thought maybe this female is a dilute Ash-Red spread. I don't have very much genetic knowledge in Pigeons. Here is another photo of complete pair. These are the birds of a friend of mine and I am very much curious of this hen's genotype.



Two other offspring from the same line.



**Mr. Richard Kirchner** : All birds could be explained by milky in my opinion. Additional factors could include dilution and spread. Ash-Red is a possibility but not a necessity to get a colour such as your hen. Of the extra photos , which ones if any, show your hens parents, particularly her father?

My response : Generally I agree with **Richard**, but the cock bird in the second photo that you say are the parents, **Mohammad** , does not strike me as milky factor. The others all could be. I do not see any as spread factor as the tail bands are evident throughout all but the very light hen. You may want to try mating her to a normal wild-type blue bar coloured fantail to see just what she produces. If she is milky, there will be no milky young. If she somehow happens to be spread, then 50% of the young would be spread, but I do not see either of her parents as spread. One would have to be. They all seem to be T-Pattern, and the original male shows a lightening of the bar area and also in the flights, that is where I felt Opal may figure into the equation. Dominant Opal also tends to lighten the entire bird. Note there are striations in the tail band of one bird, also typical of Dominant Opal. Mate the father to a blue bar, and that may produce some typical (Od) offspring.

Here again are the parents of the top light coloured hen.



That is it for the Month of April 2021 , for many of you it is Spring and the hope of new life , new beginnings , and a better season than those that preceded . Many of you are dealing with a 'third wave' of the Covid -19 Virus and its variants ! We hope all of you will keep safe ! We can beat this Virus by starvation, no place to feed and breed and it dies!

Take care , Be safe , Hug a family member or friend , and send me some photos for a future Issue !