

The Pigeon Genetics Newsletter, News, Views & Comments.

(Founded by Dr. Willard .F. Hollander)
Editor R.J. Rodgers Nova Scotia Canada.

Co-Editor Jith Peter Kerala India.

February 2022

We have talked about a variety of genetic traits over the years but have never been able to pin down exactly what causes some of them.

The names tentatively given to them have been : "Shadowing"., "Black Ash"., Saturated T-
Pattern Kite., "Coarse spread /spread factor., and "Erased"., to name a few.

The truth is that almost NOTHING is known about these mutations or combinations of mutations as far as anyone can tell. Much of the ancient past of some of these traits has been lost so that even if we are able to trace where some have originated , there is no information available as to what early breeders actually did to maintain the mutations even if they did realize that they had something unique. They approached all noted changes in the same manner. They simply mated 'like-traits' together and inbred to develop strains that featured the new colour or feather mutations. Nothing was ever kept in writing and photos were not even invented in many cases, thus we have no records to research.

There seems to be some sort of common denominator when it comes to a few of these mutations. For example: The term "shadowing" describes what seems to be residual dark pigmentation that expresses like a smutty, grayish black smudging over a whitish or basically colourless or low colour area whether it is on the shields , the flights and tail, or the entire bird. This shadowing has been seen on various grizzle traits where the birds are primarily white, (not to be confused with Homozygous grizzle expressions). The shadow trait often appears on birds of a wide variety of colour shades that have been created from crosses to the Archangel Breed 'Gimpel' colour arrangement involving the saturated black wing and tail.

Likewise when the so-called Kite, in the Almond breeding programs, which is a (saturated T-pattern blue/Black that appears as a solid black with kite bronzing in the flights), is in fact used along with the stipple gene whether just with spread factor , OR also in combination with the other almond components, there are often specimens produced that are expressing " Shadowing". This is often confused with one or the other of some of the St. Alleles, particularly St.^ Q.



Photo by : **Jahidul Islam.**

Ancient writings suggest that the Black Kite (saturated T-Pattern blue/Black with Kite bronze may have actually been produced from the Archangel blackwing Gimpel in India.



Photos supplied by **Shoibal Sabbir**

and



Joe Power



The above photos by **Shareef Mohd** and presented by **Shoibal Sabbir** offered an interesting array of reactions from Facebook Group participants as they bantered about a variety of ideas regarding this unique phenotype. Some thought it may involve the St^F (faded) allele. Others thought St^Q, the Qualmond allele combined with frill stencil. I suggested that perhaps Gimpel black wing bronze had been introduced a few generations earlier. Here we do see the "shadowing" effect as faint traces of the blue / Black pigment remain. I have since consider its actual placement, I suggest that it is coarse spread as opposed to smooth spread. The bronzing of the heads and necks of the birds suggests Gimpel Ka1 , and ka2., however this sort of bronzing is common in Blondinettes. You may also note that the (fs) gene is having an effect as if it is working on both Self pattern series and solid Spread factor between the two birds but with the wings and tail colourations not in the expected combination. For example , the finch - like markings on the flights of the bird on the left side of the second photo are combined with the more 'laced'-like tail, while the laced wings on the right side bird are combined with the typical pattern series 'moon' marked tail. That difference is sometimes seen in Blondinettes..

Now , I am not saying that all specimens that look like smutty coloured whites are because of the "Shadowing" gene. We do not even know if there is such a gene ! There are a number of colour genes that only partially de-pigment at the best of times. However some are more prone to cause the bird to be almost pure white with just a cast of visible colour. It may be any one of the three base pigments: Dominant Red (ash series) , Black (blue series) , or Chocolate (brown series).

All of these have a tendency to be quite light or whitish at the base of each feather, in other words you will not see the full base colour expressed all the way down into each feather. The case of the "Shadowing" trait gives us the complete opposite phenotype. The feathers appear almost all white except for a very slight blush of colour remaining over the feathers but not in the form of the laced effect. Recessive reds combined with grizzle (G) usually shows more lacing.

Then also we must take into consideration the modifier "Dirty Factor" (V) and even a second type of dirty factor that has yet to be precisely identified and given a symbol. It is possible that when certain traits such as the grizzle family, the Stipper family, recessive red family, etc., are involved, they are able to de-pigment, and/or wash out most pigment granules to the point that we are seeing only faint remnants of a modifier such as Dirty Factor (V).

While there has been no immediate connection made by those who are producing what they call "Black Ash" birds, it seems plausible to suspect that the 'black' flecking that abounds on these primarily spread ash birds may actually also be a form of the "Shadowing" gene combined with heterozygous blue/black. We know that spread (S) is involved, and Ash hetero for blue/Black.



"Black Ash" by **Touhou Yang**.



Marlo Rieshus.

You may recall that I have suggested in an earlier Issue of this Newsletter that it may be possible that we also have another form of spread factor, giving us two.

1.(Smooth Spread); We are all familiar with the idea that the concentrated smooth spread factor of the base pigment found in the sub-terminal tail band is caused to express over the entire bird by a gene that has been given the name "Spread factor" with symbol (S).

2.(Coarse Spread); However, I contend that we may also have a gene that causes the pigment granules of the 'C' Pattern areas to be spread over the entire bird. Assuming that that is possible, then shadowing could possibly be residual remnants of that pigmentation lingering for one reason or another. Some shiny SOLID Black Archangels are produced that are not of the typical or conventional Spread factor genome.

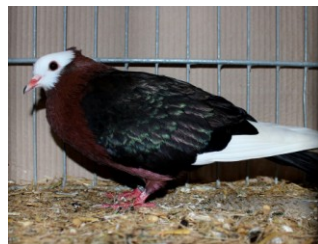


Photo : **Mick Bassett**

I do not have a photo available to demonstrate the trait To which I refer.



Here is a photo by **Burhan Furkan**

Kardesler. Most people would say that they are recessive reds with the typical White head marking combined with Dominant white flights and linked white tarsus and toe feathers. In some of these birds it has been discovered in tests with wild type that they are actually ash-reds. Usually when the Baldhead gene is combined with recessive red the shield becomes mottled with the first moult. These do not. The fact that the red appears to be spread over the entire bird and is not, OR may not be recessive red, suggests that another trait may be causing the solid colour feathering. We know that if the bird was ash base, then the smooth spread version would be an ashy coloured bird if (S) Spread factor was involved. However IF the spread factor was causing "Coarse Spread" to be distributed over the entire bird, we would expect a solid red bird. This is a project that would be very interesting !

If you have birds that look like they are recessive reds, but are not giving you the kind of results that you would expect from a recessive autosomal gene, then you may have the stock necessary to begin testing just what is going on with those birds, and possibly reveal a new spread factor gene that causes 'coarse spread' to be covered over the entire bird.

The "Erased" gene affects mainly the 'C' Pattern areas of the Bars and checks. It de-pigments these areas partially in some cases so that the coarse spread granules become so spaced that a washing out effect creates a partial bar expression . I have not made any definitive association between this gene and the shadowing effect mentioned above.



The above Exhibition Homer , photo provided by **Jerry Sindelar** of Canada , expresses diminished Bar pattern which is most likely caused at least in part by the 'Erased' gene.

Needless to say , we require more information about each trait. We need breeders to select a trait and breed many offspring while keeping excellent records both in photographs and in writing. Ideally we also need laboratory testing to accompany the above findings so that we can zero in on the finer details of each gene.

I am willing to go out on a limb by suggesting that we are seeing remnants of "COARSE SPREAD" pigment granules when we see 'shadowing' , and that Erased is the breaking down or de-pigmentation of Coarse Spread granules. While the two traits can express independently of each other , perhaps they create 'shadowing' when they happen to occur on the same bird.

The only way we can progress in any direction with these ideas is if YOU grab the ball and run with it ! We NEED everyone to participate. Take a trait and do some testing in your own loft. Keep good records and send us a Report on your findings. Full credit will be given to you as it will be presented as you have reported it. Even if you think it did not show or prove anything , we may discover that it did and will be able to attribute that to you.



This is a King Pigeon from **Anwarul Kabir**. It is a dilute ash but expresses a significant bluish tint which I think may actually be due to Indigo and Dirty factor. It is a photo from a long time back, so I cannot recall all of the details . This IS however somewhat similar to the 'shadowing' effect as seen on some coloured birds that have not been whitened by any specific gene ' Usually the flights would also be laced in a darker grey.

I have seen many examples of the smutty 'shadowing' trait on Facebook over the years , but I do not have access to them now. As the name implies , there is a dark shadow of pigment that remains basically on top of either white feathers or one of the base colours. The flights and tail feathers are almost always laced or tarnished with this shadowing effect. Most of the birds I have seen with this shadowing trait have obviously been bred down from outcrosses to Archangel Black wing Gimpel phenotype.

If you think you have an example of what I am referring to , please send me a few photos for a future Issue !



Here is a bird that was discussed in my Strictly Genetics For Pigeons Facebook Group. It is bred and owned by **Dennis Webster**. It appears to be a dilute recessive red (recessive yellow), but as you can see there is considerable dark bluish / gray tarnish expressed in most of the feathers. You can clearly see that the tail band is yellow so we know it is recessive yellow. This bird may be mistaken as having the Shadowing trait, but I do not think so. Octavian Sarofolean stated- "I think it is dilute Spread Rec red + Ember".

I responded : To paint a better picture of what you are saying : "A Dun Ember carrying recessive red, ember being a dominant allele of recessive red." -- I have seen Intense black Embers but am struggling to see that same effect as a dilute, especially with this yellow."

I had entertained the idea that it may be an 'unimproved recessive yellow', but we cannot see the bird well and the flights do look very light. Octavian may be correct if considering this as an Ember that carries recessive yellow.

The Ember pigeon is an allele of Recessive Red at the Sox-10 locus. There may be one other allele at that locus. Some interesting things happen when breeding these birds. Perhaps some of you would like to participate in a future Issue by sending us photos of your (e) alleles and what has happened when you mated them to wild type blue bar and other factors as well as to one another!

We would love to compare the phenotypes among the birds as they change from nestlings on up to adults. I know that we have presented some from my Groups previously, but it would be great to do an extended Issue on the topic. Do not be shy about naming them or anything else, we can do a great deal of that for you as long as you show us the parents and grandparents wherever possible.

~~~~~





Here we have a Father and daughter spread blue/Black birds bred by Voiajori Colorati of Romania.

The Sire looks quite similar to many of the Spread factor Stippers out there in that he is basically a black & white "Sprinkle" effect. The daughter is very typical of many dun birds that are dilute spread blue/Black. However both of these birds are said to be PURE for the stipper allele "Faded" (St.^F). The sire is homo faded but hetero for both dilution and spread factor. The daughter is hemizygous for faded, and I assume hetero spread factor .

If we follow the old saying : " All Almonds are stippers , but not all stippers are Almonds " then it makes a great deal of practical sense. Everything at the (St.) locus is a stipper except when it does not receive that St. gene version and remains wild-Type. All of the other mutations carry the St. symbol denoting that they are indeed stipper alleles at this locus. Four of the mutations tend to show very little gene effect from wild type on the Pattern series. That is usually how we determine visually which is which. Wild type (+): St.^ Faded (St.^F)., St.^Qualmond (St.^Q)., St.^Frosty (St.^f)., and .

Then there is St.^Almond (St.) , St^ Hickory (St.^H)., St.^Sandy (St.^Sa). and St.^ Whiteout (St.^Wh).

There was a chart developed where several people added the various mutations in an order based upon the "Whitening" effect of the St. gene. However when we observe the chart we see that some have been pictured as combinations with the 'pattern series' of barless, bar, checker , and T-Pattern. Others were shown as they looked combined with Spread factor. We use the term "SPRINKLE" for the St. gene mutation when it is combined with both the pattern series and spread factor, but lacking any and all other modifier components that would prevent us from seeing ONLY the single colour base pigment and the St. white breaks.

In the case of the traits that have very little effect on Wild-Type Base pigment , we do not see the typical white break. We have to go to a homozygous state and usually spread factor to see that 'sprinkling ' effect. Even then there are some subtle differences, and those differences become more noticeable as the birds age and reversion to wild-Type advances.

You can certainly see from all of this that we are a very long way from getting everyone on the same page and this is causing a tremendous amount of confusion among the Pigeon Breeders out there who want a simple straight forward explanation (if one is possible) for the multiple range of variegation in the colour effects at the Stipper Locus. We can do it , but we MUST get some of the OLD ideas and terms out of our minds , and be willing to adapt to the much more recent ideas.

.....

There are other discussions that have been running in circles with no consensus of agreement that confuse the terminology of breeding and naming traits in the Stipper/Almond family. One noted term is the "WHOLE AGATE". You may wonder what in blazes is that ? You would be correct to ask! When the recessive red component is added to any Almond breeding program, there is a small percentage chance that any given pair will produce some recessive red offspring. That has been set at 2/16ths. However two phenotypes are recognized within this group. Those with white moulting in with the first moult to have a mottled wing shield referred to as "AGATES", and those which never produce a mottled shield or white anywhere in their feathers that are referred to as "Whole Agates". Now correct me if I am wrong , but when you have two of anything , they can be separated , especially if they are different ! Logic would tell anyone that the half that do not show any white in their lives are not AGATES, they are simply solid recessive reds. They lack the modifier or modifier enabler that causes them to change to a mottle wing when they moult in their adult plumage.

I challenged breeders to run a little experiment. Take two solid recessive red ( WHOLE AGATES ) and try to produce a mottle wing Agate from them. It cannot happen!! Likewise take a pair of Mottle wing Agates and try to produce a solid recessive red from them, it will not happen. There is a reason for that and it is that the solid reds do not carry the gene that causes mottle wing. Mottle wing Agates also breed true and do not carry Solid Red. Keep in mind that all of them are fledged as solid recessive reds , but a portion , about half will moult to whiteside / mottle wings.



A MIGRATIONAL white Pied recessive red bred by **Jith Peter**, this is not a grizzle , or a white side / Agate.



This is probably ash red but may be recessive red and I think a Print grizzle by **Liker**

**Wasi.**



A yellow whiteside with specific enabler gene and an intense phase recessive red whiteside Bred by **SV dZ Althollandischer**.



The power has been flickering off while I typed these last words. We are having many hours of hail ( Ice pellets). I always rejoice when I hear it striking the window panes as it is part of the Month of February and a sign that spring is not all that far away now !

Sorry to be so late with the Newsletter , I hope to have recovered from surgery and side effects by next Issue I