Email Pigeon Genetics Newsletter

October 2014

Editor : R J Rodgers , Nova Scotia Canada .

I am pleased to continue this Newsletter that Dr. Lester .P. Gibson published for many years.

He will remain a contributor and his years of experience in Genetic testing will be much appreciated .

I ask that all of you contribute some of your knowledge and experience and that you respect the fact that we will have Fanciers from many parts of the World with varying levels of experience . I therefore also ask that you be patient with some of the repetition that we will be experiencing .

This issue I continued with a topic that Paul covered in the Aug. 2014 issue ., "SPREAD factor" . He mentioned that Spread Factor the gene, was different than "smooth and Coarse Spread" the phenotypes. He explained that Spread factor does not actually spread the Tail band and Flight feather tip colouration over the entire bird but instead rearranges the "Clumped" pigment . Spread then allows us to see the Ash/blue/brown pattern Series colouration, to become more typical Red, Black or Chocolate pigment colouration .

Spread factor blue bar bred by Ryan Harvey . &

Hemi., Spread ash -red hen bred by Bob Rodgers

Spread ash Cocks hetero for blue / black., one masking check ., the other T-pattern bred by Bob Rodgers .

So , If Spread factor rearranges the clumped pigment ., does it also affect the Coarse spread pigment of the pattern (C) areas and if so in what way ? We think of Spread factor as being "Epistatic" , Covering / hiding everything much in the same way as we think of recessive red ., but does it ?? Spread factor does change how we see each colour series , but there is a high degree of variability , Why !? Is that because of additional Modifiers only ? Does the idea that it may not affect the pattern (C) areas play a role ? Even in spread ash-reds , the patterns usually show some darker red pigment . I would like to hear as many views on this as possible , so please drop me a line at my email address : bob_rodgers556@hotmail.com

In the above examples , the blue bar Racer clearly shows its pattern and could be darkened as a result of additional modifiers without SPREAD . However he bred as a homozygous Spread bird when mated to pattern birds , producing pure blacks . Axel Sell gives a very similar example in his recent Book .

The above hemizygous ash-red Show Roller hen is very typical for spread Ash ., with just a hint of the actual Dominant red pigment and/or a bronze showing on the shields . No Dirty , recessive red , or Sooty , was in her immediate pedigree nor evident in her phenotype ..

The two flying Roller cocks show a typical range from a medium to saturated expression of the red pigment in Spread factor. Some would say Sooty factor is involved but I do not think so . , nor is recessive red . Dirty and bronze are more likely the modifiers causing enhanced red pigment in these two birds .

The heterozygous and homozygous SPREAD factor birds usually look the same . The range in colour intensity depends upon the additional modifiers involved and we know how some of those modifiers work but it seems that more study is needed. Selection in breeding also assists with intensity.



Jeff Wozniak Spread Ash/ Red . Spread blue/ black . Clint Robertson Spread brown/ chocolate

Now lets go back to the idea that SPREAD <u>rearranges</u> the clumped pigment to smooth it out so that we have a visual effect of Ash , black or Chocolate. Theoretically , if spread also affected the Coarse spread pattern areas in a like

manner , then we would expect them to actually get lighter . If it does not affect the coarse spread areas and depends upon other modifiers to create a pure black phenotype , ... that leaves the door open to new ideas about how we see other gene effects that we previously thought did or did not print through Spread factor. Do any of the mutations such as Toy stencil ., Bronze , Opal ., etc. actually PUNCH , or PRINT Through Spread Factor ., or just simply have a modifying effect on the Coarse spread Pigment in the absense of Spread in the "C" areas ?

NOT THE WHOLE STORY ! The black barred Racer at the beginning of this newsletter is a slightly different trait. As we read in the September Issue , even the best blacks that are spread factor will reveal their pattern in certain light or other conditions. But some are so obviously typical pattern birds that it is difficult to believe that they can be in fact true SPREAD **factor birds . Paul, Axel, Ryan and I, have bred patterned birds that when mated to blue bar or checkers, produced pure blacks. There seems to be an additional trait that inhibits the Spread factor gene from completely rearranging the clumped pigment , (Incomplete Spread Factor) , so that the differential between those areas and the pattern areas is still quite noticeable despite heterozygosity (impurity) for the normal Spread Trait !**



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Black bar and Dun Barred siblings when mated to blue series patterned birds always produced - pure blacks *

I tried to duplicate this spread trait on Checker pattern birds but was not able to do it . The checkers I got were of a different colouration that appeared to be dirty factor birds . This seemed to suggest that the Incomplete Spread trait was

linked to bar Pattern. I even entertained the idea that the barred birds may actually be T-Patterns , but Paul was certain his were barred pattern .

Notice in the incomplete spread black barred bird directly above , that hetero Ts1(Toy Stencil bronze) is showing on the bar area. We know that (Ts) in its various component combinations , will show clearly on the wing pattern regions of Spread factor birds but not the tail bands or wing tips . . We know that there are variable expressions . The Dun barred birds also had sulphur in their bars not seen in these photos . Their dam was a Saxon Monk Full Ts Complex. Does (Ts) ever have to deal with spread factor in the Coarse spread areas? It seems that (Ts) may express with spread / smooth spread , when Sooty factor is involved.

It has been said , that "Bronze"(Type not stipulated) , is masked by spread. (perhaps referring to Gimpel bronze which is masked in Blacks). Bronze expressions usually do not show up on adult feathers that have Clumped pigment granules (with the exception of Brander bronze), at least we cannot see it with the naked eye. Therefore we would not always expect to see bronze expressed in those clumped pigment regions affected by the smoothing out rearrangement of Spread Factor . Bronze otherwise may appear on the outer tips of juvenile feathers of smooth spread areas , but moult away to just the Flights and perhaps the Tail feathers centrally. The Pattern areas are where we DO in fact see bronze in most cases. Sooty seems to be a key factor in allowing Toy Stencil to express on both patterned and spread birds . In some cases , feathers that are typically not part of the Patterned (C) areas , will not only be affected by Sooty., but also may express the Ts bronze or white phenotypes . Frill Stencilling affects the feathers differently, affecting the flight feathers, and the Tail band in most patterned birds when it is pure. The main tail feathers on spread pure (fs) birds usually show the effects as laced white feathers . . On its own, (fs) fails at its best to equal the whitening effects of either Toy Stencil or Dominant Opal because of the different location on the feathers , and it also is enhanced by the addition of Sooty factor.

Photo Alp Alp

The general observation is that the more darkeners involved ., the better the whitening effects , thus coarse spread in T-pattern , Sooty , Dirty and ofcourse Spread play major roles .

Frill Stencil & Toy stencil Sooty Blue Bar , Post in Facebook by Imran Haider . Note that the center areas of the smooth spread feathers are affected by Sooty and also Ts . The additional whitening effect is the (fs) also affecting the feathers for a very unique pattern.

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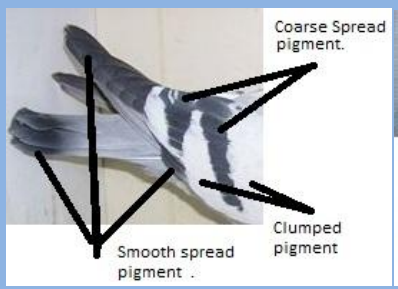
The beautiful effect of a Spread factor Blue barred bird with the Coarse spread bar pattern whitened by Toy Stencil. Post in Facebook by Qul hu Allah hu Abad .

Here are diagrams of the effects seen, by the pigment arrangements.

The Spread Factor gene in effect prevents us from seeing the "neutral" background upon which the pigment granules are dispursed, thus no gray on a black bird.



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Here is a picture of a certificate of appreciation bestowed upon Dr. Gibson !

Thanks for reading this Newsletter , I hope you will appreciate that it is a starting point for me, we will see where the topics lead in the future . Layne Gardner has offered photos for future issues , so I look forward to presenting those with our talks . Now a few nice pictures:

Here are beautiful photos taken and submitted by Jerry Sindelar at the Nurnberg Show 2012 .

(1) South German Shield (saddle Mark)

(2) Echterdinger Colour Pigeon .

(3) South German Shield (Toy Stencil)

(4) Bohemian Stavak Pouter

Norwich Cropper

Charkovsky - Sametovy LAJ (Body mark).

The following are photos sent in by Garry Glissmeyer of Colorado U.S.A. These are three beautiful Indian Fantails he has bred . The first is a "Flash grizzle" Tail mark young bird he has great hope for showing . The second is a Champion old cock self smoky T-Pattern I believe ., and the last one is a Black Saddle Champion for Garry.

Now you may submit any topic / photos/ , anything pertaining to current Newsletter material or something you would like to see delt with in the future . We will be here in the "Pigeon Coop" waiting to hear from you !

See you the first of November ! ~ Bob R.