



The **Pigeon Genetics** Newsletter

News , Views , & Comments

Editor : Robert .J. Rodgers , Nova Scotia , Canada .

Co-Editor : Jith Peter Palakkad , India .

May Issue - 2017 (The Pattern Locus)

This Month we have decided to FEATURE a specific Breed to demonstrate the topic of discussion. That Breed is one that is very dear to my heart, the **American Show Racer** . I asked the members of the **ASR Facebook Group** and their administrator **Robert Corrales** for permission to use their photos. We thank the members for their willingness to participate.

You may ask , why do we need more talk about Pattern , we all know what it is ? You may be surprised to learn that many still do not understand Patterns. This may in part be as a result of the fact that an old diagram by the late Dr. Willard .F. Hollander was and probably is still circulated on the net that is in fact causing confusion, because it is incorrect. The problem with it is that it is poorly drawn and seems to suggest , that the location of smooth spread and Coarse spread are one and the same..

One very reliable method, but not fool - proof , of distinguishing base colour is the small area that is often mistaken as Coarse spread and therefore thought to be a part of the first wing bar from the flights. You will notice that this bar often appears to be shorter by almost half a length of the second bar. This is because part of the bar is indeed Coarse spread , while the remainder is Smooth spread. This becomes very evident with modifiers such as the stencils , Ash reds, Indigos , Dilution , barless pattern , and so on. Let's look at some examples up close.

This Feature Issue will be over the usual 12 pages we have set , and we have tried to include as many examples and Breeders as possible , but obviously cannot include every member of this Facebook Group or Breed Association . The intent is to bring more attention to the overall PATTERNS and to try to sort out when they represent an actual "mutation" as opposed to simply the result of other modifiers expressing along with the standard Pattern mutations as we know them.

Above photos : (1) Gary Keith , (2) Robert Corrales ,(3),(4)& (5) Hubert Kreftner, (6) Gary Keith .



**Toy Stencil
Saddle mark.**

**Intense Blue Bar showing the
Toy Stencil Full Complex in bar
area and the black smooth
spread ends of the secondary
flights .**



photo Mick bassett

Brander showing smooth spread Mick Bassett.

Below the ash-red Coarse spread pigment clearly demonstrates a short first bar and a long second bar and you can also see the secondary ASH tips that normally would also be red IF those areas were Coarse spread , but instead they in fact are smooth spread appearing as ash.

The Coarse spread areas of ash may also be enriched in colour by modifiers such as "bronze" and heterozygosity for recessive red. Dirty factor may also deepen the red.



Ash-red bar - Manuel Alvernaz.



Ash-Red Bar - Gary Keith

Below: a photo by Jith Peter , here we can see that the tips of all primary and secondary feathers are the base pigment in smooth spread application. The Coarse spread pigment is influenced by a bronze trait which illustrates exactly which portion of each feather is affected by Coarse spread in a Bar Pattern. Bronze never expresses on concentrated smooth spread.

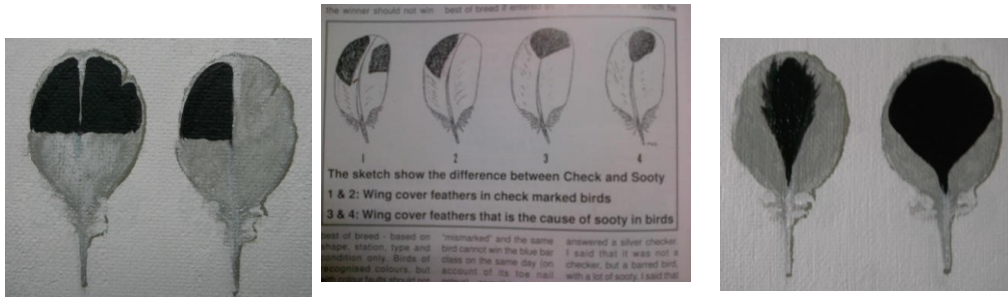


Here you can see in a drawing by J.W. Ludlow 1879 , the bar markings suggest two complete coarse spread bands running in a closely adjacent curved line , but in reality this does not usually , if ever, happen. The first bar from the ends of the secondary feathers never finishes out like that drawing shows. Only the four or five feathers on the right side of this picture would actually have Coarse spread pigment deposited on the outer vane of each, in a small rectangular shape about middle feather. Then the remainder of the feathers would be silvery gray (blue) . The ends of the secondaries would be tipped heavily with Smooth spread pigment and that would form the remainder of the bar, (not illustrated here). The bars are present on Checkers as well as T-pattern birds . The bars are therefore , created by Coarse spread being deposited in just one section of, and one side of the last five secondary feathers and ten to twelve covert feathers .

Coarse spread is however , deposited from the outer edge or edges of the shield feathers and travels inward toward the mid rib to create the various stages of the Checker Pattern. It can be on both sides or

just one in Check patterns . This location and the amount makes the difference between a light , medium, dark , or T-pattern check.

Sooty factor is the addition of pigment to the mid-rib region of each feather in variable amounts and radiating outward. The combination of these traits is said to contribute to the saturated T-patterned birds , quite often in conjunction with (V) Dirty Factor.



When we speak about "Pattern" in Pigeons , we are / or should be talking about the Pattern Series mutations with descending order of dominance from the darkest hues to the lightest., that we know mainly due to their striking tone variations from T-checker to Dark checker, to medium check, to light checker, to Barred ., and Barless within each of the three known Colour pigments Red, Black and Chocolate . These Color and pattern combinations are therefore referred to as the "Colour series, known as : Ash, Blue , and brown Series. The Base colours are also arranged in a descending order of Dominance as given : ash, blue , and brown. The patterns are autosomal, while the Base colour series are sex-linked. The modifiers "Spread factor" and "recessive opal" are "linked to pattern as they are on the same chromosome.

It has long been thought that the "BARRED" pattern was the original in Columba livia ., and that mutations took place to give us the rest. Dr. Lester .P. Gibson suggested some years ago that it was conceivable that the Checker pattern was the first and the rest mutated from there. We have since reported that others have been looking into the idea that the checker pattern may actually have been "introduced" from an outcross to another closely related species. This is an idea that is not so difficult to believe in light of the fact that we have seen that a number of early crosses among the Columbidae have proven fertile ., and may well have been instrumental in the creation of many of the strains of our Columba livia domestica that we enjoy today.

We have put together this collection of beautiful examples of the "PATTERNS" for your enjoyment and food for thought.

Each named Pattern may have quite a range of expressions , so that it becomes somewhat of a task to actually "pigeon hole " them into one mutant category or another. This is particularly so of the many expressions of the checker pattern

" The American Show Racer " Pictoral **SHOWCASE** .



Gary Keith (Saturated T-), T-Pat. Michael Meinetten ., Willie Halpern Dark Check,



Witson/Rocco Verhage Medium Chk. , Bertus Kok Light Check., M. Spadoni Aust, F. Group



Jack Muir Ash-Red Velvet, William Wilson Yellow Light Chk., Jan Reint Kreijkes Red Light Chk.



Blue Bar Gary Keith, Dilute Blue Bar Bertus Kok., Recessive opal Blue bar.Jeffrey Wozniak



Indigo Dark Chk MD MeDz Fsl



Indigo medium chk. Bertus Kok



Marlo Reishus Dominant Opal T-pattern &



Dominant Opal by Djiin Decor .



Recessive opal ,Andy Hess

Recessive opal pictured above is linked to the Pattern Series . See more on this below for Spread .

Graeme Marsland Mealy (Spread Ash hetero for Blue /black..)



When we observe Black or Chocolate pigment that is influenced by the Spread factor gene, we see their true colour eumelanin. However, when we have Dominant Red phaeomelanin and spread factor combined, we do not see the expected dark brick Red. The pigment granules are of a different shape, size and therefore deposited somewhat differently, so that we see them as an "ashy" gray colour, thus the term Spread Ash. Pure (homozygous) ash-red spread factor birds present as a solid ash colour. Males that also express flecks of Black or Chocolate are referred to as "Mealies" due to the mealy grainy phenotype. The name Mealy was used by Racer enthusiasts to mean Ash in any pattern. The ash-red bar is often still referred to as a mealy, although Ash-Red bar is correctly gaining popularity.

Bronze residue often causes some trace Red where bars and checks normally would express. The neck often has a dark red crescent which is seen also on Blue series birds as either black or bronze.

Spread Factor, causes a Blue series Patterned bird to look Solid Black, or a Brown series Patterned bird to look solid Chocolate brown, Or ash-Red series Patterned Dominant RED birds to appear Solid Ash. Spread factor is NOT part of the Pattern Series, however; it is linked to the pattern series as it is on the same Chromosome. The Books published by Wendell Levi are now outdated and back then it was thought that the gene Spread Factor was part of the Pattern Series and it was placed above T-pattern as the most Dominant among the five. Now we know that that is not the case.

Below Photos show two phenotypes of Spread blue / Black.

Spread factor blue/black, masking a slightly visible medium checker. John Raajimann.

Spread factor partially masking Blue Bar (incomplete spread) possibly Hetero spread, Gary Keith



To get a complete masking effect of the spread factor gene , we have to incorporate a number of traits. Firstly it will help if the Pattern that is hidden is T-pattern and better yet , if it is saturated T-pattern. This will mean that already a number of darkening modifiers may be present. Those may be Homozygous Dirty factor (V), Homozygous smoky factor (sy) and homozygous Sooty factor (So).



Spread ash Old male hetero for blue - Jeffrey Wozniak , & Pure Spread ash bred by Robert Corrales.

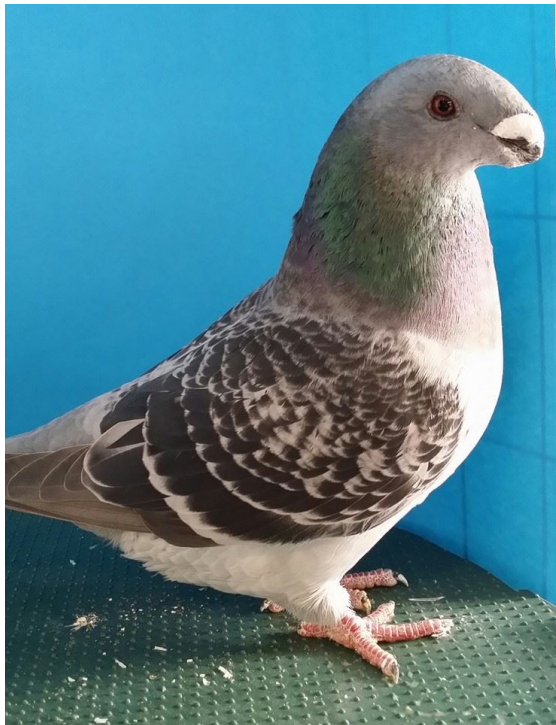
Sooty seems quite rare in ASR's , so may not be present on any Saturated T Patterns .



Light Checker Bred by Robert Corrales .



Light checker Gary Keith.



Willie Halpern Medium Checker ,

Dark Checkers : below .



medium checker bred by Robert Corrales



Dark Checker Joe Ognibene.



Sam VD Hoven - Dark Checker.



T-Pattern Mark Lingle .



T-Pattern Michael Meinetten



Yellow Saturated T-pattern. Mahmut Caglar . & Sat. T Pat. Blue Hubert Kreftner





Jeffrey Wozniak's - Classical Blue Grizzle . Ash-Red Bar Classic Grizzle by Bertus Kok.



Blue Bar and Heterozygous Classic Grizzle Blue bar by Patocs Kitti Patocs Tibor.



A reduced Dominant Opal or reduced Spread masking blue bar pattern by Manuel Alvernaz . and a true Silver (dilute blue) by Val Bossu



Stephen Walsh post in The Australian National Pigeon Association Inc. Facebook Group permission Michael Spadoni . This is a rarely seen Sooty factor Ash-red bar ASR., and Intense phase Ash-Red Bar expressing a third bar (a dominant trait not considered par of the Pattern Series) . Bred By Michael Braatz ASR Facebook Group .This youngster is a male hetero for blue.



Spread Ash-cream by Robert Corrales



T-Chk. Pied - Krystan Crider

Here are a few check patterns that fall somewhere among the standard five .: I have cropped photos that were not ASR's in some cases as these are not frequently seen in all Breeds .



(1) This is a very light Checker with a strong third bar expression. Note that no matter how light the shield is , the checker pattern on the back (heart) is more pronounced. Photo , Racer by Qafi's Loft India.
 (2) Smoky medium chk.- Ryan Harvey (3) Smoky Blue Bar -Alim Ansari(4) Dk Sooty Bar- Prasad G Prasad.(5) very light chk. -Jeronimo Kronenburg (6) Smoky T-pattern "slate"- Ahmed Elhossney (7) T-Pattern Chk. ASR Bertus Kok.



Stanly Stammer -Andalusian.



Opalusian - Nicolae Florea.

Corrections to last Month.s Issue : Firstly , we stated that this Month we would feature the Straser Breeding program of Tyller Milan, but due to the fact that he runs a Farm , and this is a busy time , he will not be prepared to send us his work until the end of the year.

I also misunderstood the intension of Hein Van Grouw in his explanation of "ino" , so I wrote : (Editors' comment) If we could place dilution ., pale ., milky., ., and all other mutations where we see a depletion of either eumelanin or pheomelanin or both, under the umbrella of a single locus named (Qualitative reduction) or (Quantitative reduction), then we would agree with Mr. Van-Grouw's idea. However; especially in view of the fact that some of these Mutations do not appear at the same locus nor even on the same type of chromosomes, we cannot in all practicality, lump them together for that similar

characteristic under the name dilution, particularly when dilution has a well established specific designation and locus positioning.

Hein did not suggest that we lump them altogether under the name dilution. Here is his explanation : I have never said that Qualitative reduction and Quantitative reduction are names for single loci as they are NOT. They are names for groups of different mutations which act similar. All dilution mutations (not dilution in pigeon-terms) can be grouped under the umbrella Quantitative reductions. And the different mutations like Brown and Ino (and dilution/pale in pigeons) are all forms of Qualitative reduction.

Attached a paper to demonstrate that in a single species many different mutations can be grouped together as Diluted and, although they are different mutations with different genes/loci involved, they all cause a similar effect to the pigment; a Quantitative reduction.

Best wishes. Hein

Finally , I gave the incorrect Country for Enes Citen. He lives in Iran , not Pakistan as stated.



smoky light check -Mark Longbottom.



Light Check-Gary Noeska/ MD MeDz Fsl.

That is it for this Month , again a Special thanks to Michael Corrales and the ASR Facebook Group. I had dozens of photos I wanted to show , perhaps another time . We may take a couple Months off for the summer ., so we will see you all again in August if not before .