

November Newsletter 2018

The Pigeon Genetics Newsletter, News, Views & Comments.
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(Founded by Dr. Willard .F. Hollander)

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"The latest updates from around the World brought to You Monthly"

Can you believe it ? We are just two Months away from 2019!! By now many of you are not only finished with the 2018 Breeding season but also the show season , and looking ahead to sending in your Club and National Society Membership fees , ordering Bands and perhaps trying to purchase that specific bird or pair that you need to round out your Breeding program for the New Year.

We hope you have your Camera in hand and that you will share some of your mating plans with our members to add interest to the Newsletter and stimulate enthusiasm within the Hobby.

We have chosen some of your Facebook posts again to be featured herein as many members here are not on Facebook and do enjoy seeing what others are doing .



Brad Stuckey asked for a friend : Porcupine? Possibly something else... ?

My first thought was that it may be Deutsch Scraggly (dsc), a simple recessive autosomal .

Then Brad posted some up-dated pictures :



My response : There does not appear to be any feather eruption taking place , so most likely it will be a Porcupine quill trait .

[Brad Stuckey](#) [Bob Rodgers](#) my friend did say he thinks its Porcupine as well. Very interesting .

Photo of another Porcupine trait from Wendell Levi's Encyclopedia of Pigeon Breeds showing that even as adults , these birds never are able to produce normal feathers.



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Johan Burg of the Netherlands Posted these photos in Strictly Colour Genetics also , asking : What to say about this bird, parents in pictures 4 and 5



(1)



(2)

**Brian Krog** Could be reduced. Looks more like a homozygous (double dose of Indigo) Andalusian.



(3)



(4)



(5)

**Brian Krog** One of mine. Homozygous Andalusian (Spread Indigo) Show Homer.



**Johan Burg** I think it's too dark to be a homozygous andy

**Brian Krog** Here's something darker. This is a Opalusian (Dominant Opal Andalusian Blue) Show Homer I have. Maybe it's this?



**Brad Stuckey** Homozygous Andalusian. Heterozygous Spread - ( Modena above .)

**Bob Rodgers** That actually would be homozygous Indigo , heterozygous Spread. I find the head on the Opalusian surprisingly dark as Opal almost always lightens the entire bird and although Indigo tends to darken the face area, all of my Opalusians were very lightly coloured ! I suppose we can expect quite a variation given the inconsistency of some of these modifiers , and other modifiers that may or may not also be involved.

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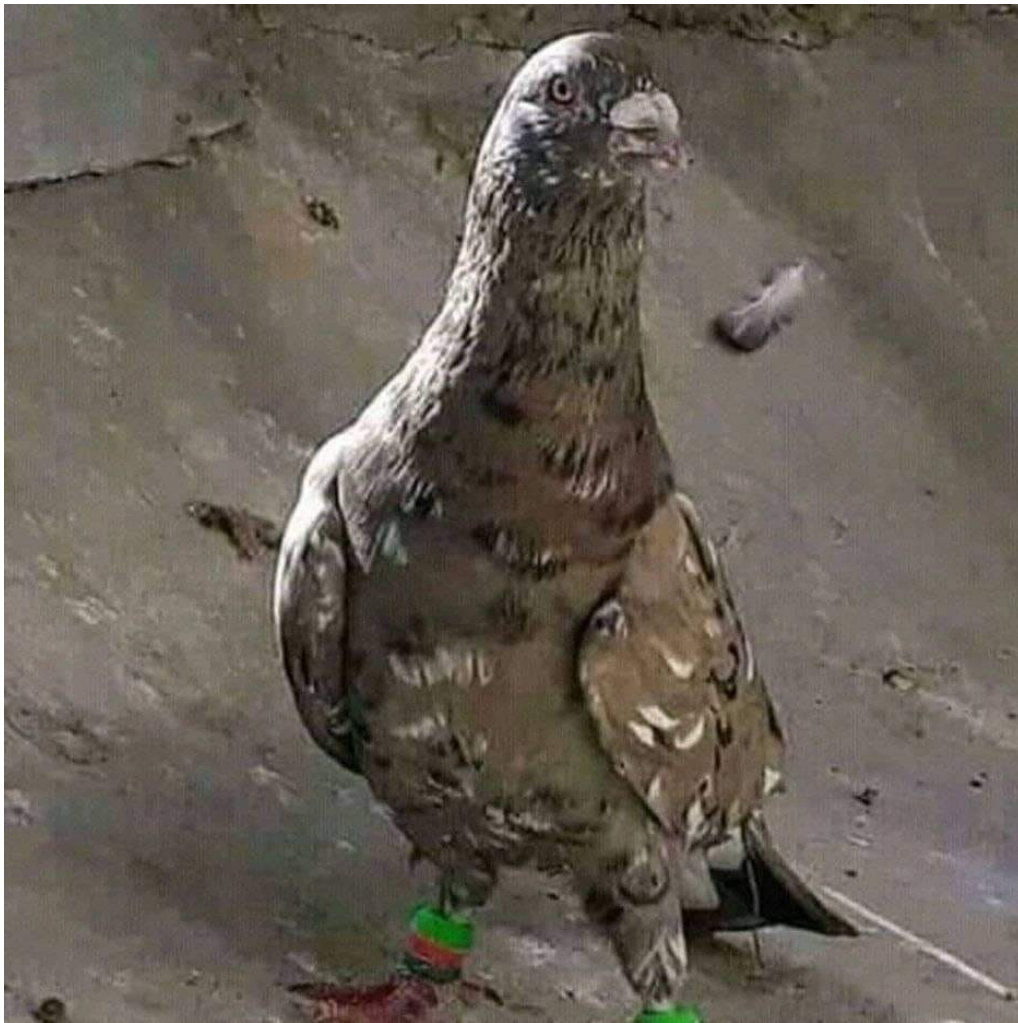
We occasionally read references on Facebook Groups in relation to P.E.V. , and members have asked me various times to explain what that is . P.E.V. stands for Position Effect Variegation describing the expression of pigments in sex-linked matings of Stipper /Almond phenotypes. Jith has covered the topic in previous Issues. I have prepared a summarized Chart which I hope will further clarify just what takes place genetically and why there are various phenotypes that sometimes seem to contradict the names given to the colour phenotypes.

Below there is a photo of a bird presented to us on "Strictly Colour Genetics for Pigeons " Facebook, by Ben Ricketts on behalf of a friend Danie Swart. Ben wrote :

We have a breeder, DANIE SWART, who would like to know if this colour can be reproduced and, if so, how ?

This post drew a number of responses and different opinions , which we have included here . This ties in with the Topic of P.E.V. in the Stipper family which we have also dealt with again here in this Issue.

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[Ricky Berg](#) Looks to be grizzle almond....mate with grizzle or kite family.

[Frank Hammond](#) Wow, first pigeon I have ever seen in desert camo . .

[Bob Rodgers](#) You make a good point Frank. we cannot say much about the possible way to reproduce this phenotype when the photo actually tells us very little. This could be Stipper expressing a lot of brown , or a very poorly lighted photo of an ash red stipper carrying blue , etc., etc. It may or may not be spread factor , may or may not be a grizzle trait, We need more info and better photos.

[Nicolae Florea](#) [Tibor Kalauz](#) maybe you know .

[Frank Hammond](#) This isn't another one of those photoshopped images is it, like the West of England we talked about a month or so ago?

[Robert Bennion](#) StFb//b;S//S. My bird is very similar [Frank Hammond](#), so the one above may not be photoshopped....this time :) (Picture #1 below).



(1)



(2)

[Frank Hammond](#) [Robert Bennion](#) to my eye your bird is not similar at all to the main pictured one, as yours looks real, but the more I look at the other one the more I can imagine somebody photoshopping a military uniform colour on to it.

[Graeme Boyd](#) Could be Spread Faded brown split blue, with Faded and brown on the same chromosome. I've seen similar on Gaditanos.

Ricky Berg - (Above picture #2)

[Frank Hammond](#) Nope, that's nothing like it.

[Ricky Berg](#) [Frank Hammond](#) pretty cool though had to share. [Frank Hammond](#) Yep very nice .

[Graeme Boyd](#) Qualmond and Faded are alleles and certain combinations can produce similar results. This is the qualmond version on a Gaditano. I know it's not the same, but I suspect that one of the St alleles, aligned with brown, with blue on the opposite chromosome, along with the spread factor, is producing the effect.



Jith Peter Yes, the colour can be replicated by pairing up the cock with a brown hen, preferably a spread brown. The bird shown in the photo is a spread blue carrying brown and the stipper locus in the same chromosome as the blue present carries a mutated gene, which is highly likely Stipper in this case, given the phenotype of the bird.

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We have covered the Stipper /Almond topic and its related alleles in several back Issues on a number of occasions and Jith has given explanations and charts of inheritance . The subject is certainly not a simple one for most and obviously the more we can try to present a clearer picture the better things will get.

The aspect that offers the most confusion is the idea that Positioning of certain traits can change the manner by which they may or may not have a direct effect on the phenotype based upon their inheritance.

Position Effect Variegation or ( P.E.V.) is a way to explain the genetics of just what takes place when the hen passes on her dominant sex-linked Stipper gene "linked" to her base colour . Linked means that they are both on the same chromosome.

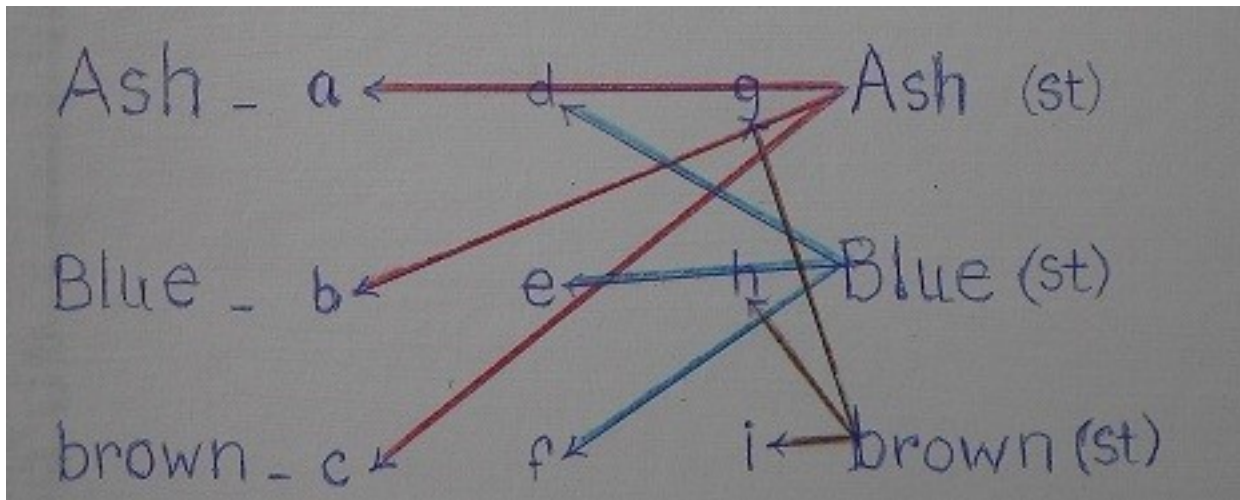
We have prepared this chart and mating print-out to show exactly what takes place in the nine possible ways a Stipper / Almond hen can pass on her stipper trait to Sons, and those that also get her colour trait linked to stipper. The hen's colour is marked in Red , Blue , and brown in the Diagram . Note that when both traits are dominant over the male , sons get both Stipper and the hen's colour.

Also note that when a Son is hetero for his colour at the colour locus, the expression of the colour allele that is linked to Stipper will be suppressed so that the opposite allele undergoes reversion. Those letters are highlighted in Orange bold .

( MALE - non - Stipper )

X

( Female - Stipper / Almond )



Nine Sex-linked matings for the Stipper gene , ALL male offspring will be Stipper/Almond .

- (a) pure Ash hetero Stipper , { Obviously these Sons will revert to be more ash-Red in colour }
- (b) Ash Stipper hetero for blue/Black { As these Sons revert they will become more Blue/Black }
- (c) Ash Stipper hetero for brown/Chocolate , { these sons will revert to be more brown/Chocolate }
- (NOTE: in all three cases , Stipper is linked to the Hen's colour ASH-RED and both passed on to her sons.)
- (d) Ash Stipper hetero for blue , { These Sons will revert to more Ash - Red }
- (e) Pure Blue hetero Stipper, { Obviously these Sons must revert to more Blue /Black }
- (f) Blue Stipper hetero for brown { These Sons will revert to more brown }
- (Note: Stipper is linked to the hen's colour BLUE and both passed on to all sons .
- (g) Ash Stipper hetero for brown { These Sons will revert to more Ash-Red }
- (h) Blue Stipper hetero for brown, { These Sons will revert to more Blue/Black }
- (i) Pure brown Stipper , { Obviously these Sons will revert to more brown/Chocolate }

(Note : Stipper is linked to the hen's colour brown and both passed on to all sons .

We hope that this outline will help everyone to understand just what takes place and why to explain why some Ash and blue Stipper birds do not follow the normally expected colour change during "reversion".

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White Pigment ?

A while back, [Bob Rodgers](#) and myself were discussing about the white caused by the St gene (e.g. in sprinkles). Bob was stating that white feathers (or parts) LACK pigment. I asked him how this was scientifically determined, and he advised me to look into some old papers.

[Axel Sell](#) helped me to locate the only two 'recent' papers on pigeon feather pigment available – both published in the previous century:

Orren Lloyd-Jones (1915) Studies on Inheritance in Pigeons – II A microscopical and Chemical Study of the Feather Pigments The Journal of Experimental Zoölogy Vol 18, No. 3.

and

E. Haase, S. Ito, A. Sell, and K. Wakamatsu (1992) Melanin concentrations in Feathers from Wild and Domestic Pigeons. The Journal of Heredity 1992:83(1)

Neither study, unfortunately, is actually looking at white. It is just stated that white is the lack of pigment, but this is not backed up. The papers do give some clues though!

Most interesting, in respect of the discussion at hand, is the observation on the diluted colours. Here it is noted that the pigment particles are much smaller when dilution is present – at least 2x smaller.

The reduced size of the pigment will cause it to absorb less light and therefore as less coloured.

Pigment consists of melanin polymers (pheomelanin most complex). It is therefore likely, that in the diluted colours, the pigment particles are smaller due to a less extensive polymerisation – smaller molecules are created. This can relatively easily be affected genetically, by affecting the biosynthesis pathway to affect polymerisation.

Now, the 1915 studies already revealed that the particle size of diluted colours are near the detection limits of the microscope used. Also the 1992 biochemical studies were not highly sophisticated in terms of size discrimination.

Thus, it can be easily imagined, that there can be smaller pigment molecules than specifically detected in the studies mentioned. Such small melanin polymers may not only be hard to detect, but also unable to absorb light – causing white.

Therefore, I would suggest that in many (perhaps all) cases, 'white pigment' DOES exist and white feathers are NOT completely devoid of pigment. Possibly, this is not the case in albinos, but further studies are required (using currently available more sophisticated detection methods) to actually determine how the white in our pigeon's feathers is achieved.

I did briefly discuss my observations and ideas with Axel Sell, and (correct me if I'm wrong Axel!) he did agree with this view I have on white. Work to be done by the scientists I'd say!

[Quido Valent](#) [Bob Rodgers](#) all options are open indeed. Only proper biochemical experiments can solve this. Molecular genetics may provide the first clues.

No deposition of cells may be too big an impact on feather biogenesis, as it will keep out more than just melanine.

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We will be attempting to get more information on this topic in the near future, as there have been studies done in a wide variety of species of birds and animals, while perhaps not in Pigeons.

The results of studies at the U of U and other University Labs will no doubt reveal a great deal more information.

Shoibal Sabbir produced this Blondinette from the pair below which I thought was interesting.







The interaction of the stipper gene with the bronze of Toy Stencil will be even more attractive as the bird ages no doubt. The sire may not be either Ts, or frill Stencil , so it is difficult to say if those traits are having an effect on this phenotype , other than hetero Toy Stencil bronze , (Ts1). The tail band suggests a spot-tail along with slight reverse "finch marks" on the tips of the flights , indicative of homozygous frill stencil.

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{ CALL ME OLD SCHOOL , or old fashioned , but for as long as I can recall, we have recognized three main base colours . The Wild Type Blue series Black pigment , and the two allelic mutations at that same colour locus : Ash series Dominant Red pigment , and brown series Chocolate pigment . The use of the description "BLACK ASH" when referring either to any Ash-RED that carries blue/BLACK , or Spread Ash carrying blue /BLACK expressing any amount of black deposits should be reconsidered .They are Ash-REDS hetero for blue/Black plain and simple ! If there is a consistent phenotype arising from that such as "MEALY" , then fine , call them Mealies. If there is another distinct phenotype, then perhaps that can also have a new name , but placing the recessive pigment ahead of the dominant colour in my view may cause more problems with terminology . } Bob R.

This is a Phenotype that has been seen on a number of occasions and it has been referred to as a "Black Ash" . There is no doubt that it is an Ash , and that it is expressing more DARK pigment than one usually expects . It is obviously Spread factor , and very likely T-Pattern. It also most likely is Dirty factor and without doubt expressing the colour it carries on the second Chromosome , blue/Black . However that does not mean that it has become a Blue Series , Black pigment bird. I have even seen birds that do not actually express this rather unusual trait , but simply ash hetero for blue / black , being referred to as black ash!

I think that there may be another trait that causes the carried blue/black gene to express in this unique manner . We see something similar in birds that are hetero for or carry a gene from the black wing Gimpel. A similar shadowing takes place over a wide variety of colour traits.



Marlo Rieshus , Australian Fancy Pigeons FB Group.



Adrian Stanciu Strictly Colour Genetics FB Group.

That is it from here for this Month , See you all back here in December ! All the Best , stay safe !