

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.

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"SMOKE GETS IN YOUR EYES"

That is how the line in a Song goes , and getting smoke in your eyes is not a pleasant experience as a rule, however when it comes to the 'smoky' factor (sy) in pigeon colour , the experience can be a very rewarding moment!

When you talk to most pigeon fanciers , you will hear then refer to smoky factor as a darkener trait. The idea is that when applied to a normal 'wild type' blue bar, the light areas are supposed to be darker than normal. The 'albescens', (whitish areas) of the outer two edges of the tail feathers , the rump feathers and the under-wing feathers appear to be somewhat darker in tone while the rest of the bird looks more like we are seeing it through a slight cloud of smoke.

Ironically, the skin of smoky factor birds is said to be lightened. This is said to cause the beak to show less pigment such that only the tip is dark. This is referred to as 'horn tip' and so named for its resemblance to the bovine cattle horn colouring.

I have a slightly different take on what smoky does, and I hope that I can demonstrate this with some of your lovely photos that you have posted on Facebook. Smoky factor seems to de-pigment only 'coarse spread colour granules. This down-grading is of course often much more pronounced in the juvenile feathers with varying amounts of reversion to a normal expression of the coarse spread 'C' Pattern areas after the first moult. Unlike some other gene expressions , the reversion then does not continue, but remains rather constant for the life of the bird.



Here you can see a wild type blue bar youngster and a smoky factor blue bar. Note that the coarse spread is all but missing. The blue bar wild type on the left, is most likely carrying smoky factor thus a stained beak as opposed to either a solid dark , or the horn tip colouring. Photo: **Yazidkhabib** Australian Racing Pigeon Group. I was not able to get his permission to use his photo in time, so hope he will not mind, it is so perfect for this discussion!

When this smoky effect is added to a saturated T-Pattern specimen, the effect is referred to as a 'slate'. Some people call any blue series smoky a slate, but that defeats the whole idea of a solid slate colour such as achieved with a Saturated T-Pattern bird. The Pattern of the bars usually becomes more pronounced as the adult feathers row in. There is more here to be studied and understood because we still do not know much about the distribution of pigment in the feathers throughout the entire bird. We have seen how the stipple gene can cause sporadic redistribution of the pigment cells such that they express in areas where one would not expect to see them. Here the smoky factor seems to distribute some of the coarse spread granules throughout all feathers giving a "blurred" appearance to all coarse spread areas and a somewhat darker appearance to the rest of the feathers even in all of the areas where we have previously believed coarse spread did not express.

I think that further study will show that both Smooth and coarse spread factor pigment cells form the sub-terminal tail band and the Wing "C" Pattern Series. This would explain a great deal about the phenotypes created by a wide variety of Colour Modifiers, such as the Dominant Opals , the recessive opals., the Toy Stencil components., the frill stencil factor, and more.



Below we will examine some phenotypes that MAY have been created with the addition of smoky factor:

Photo by **Denis Webster** - parentage of this Tumbler is unknown but a close observation of the plumage suggests that smoky may be part of its genome.



There does not appear to be any outside tail feather albescent strips and the grayish rump both are typical of the presence of the smoky gene. The light 'flesh' coloured beak is also considered to be typical of smoky factor .

We do not know what other genes may be involved here, so must assume that it is an unimproved recessive yellow with smoky factor.



Photos by **Joe Linsangan** of two lovely smoky factor T-Pattern birds that are still in the juvenile feather. The coarse spread has been depleted to make the birds look Dirty factor (V), but the feet are pink not black so we know Dirty is not present. The beaks are typically horn tip.

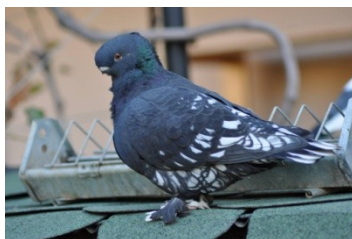


Here the 'blurred' effect of the Pattern is demonstrated by a medium dark checker by **Amzad Hosen.**, and another by **Ryan Harvey**, note also the dark back and rump, no albescent patch.

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This is an Indian Fantail photo bred by **Shaishad Mahmud** , from a Black hen and an Andalusian - the phenotype suggests frill stencil, but none is known in its pedigree.



frill stencil spread blue/Black with black beak by **Alp Alp**. for comparison.



The horn tip beak and no albescent strips suggests smoky factor here as well.

This bird is of the same breeding as the one on the previous page. Photos provided by **Shoibal Sabbir**.



Here is a photo of what appears to be a T-pattern blue series frill stencil masked by spread factor. Photo by **MD MeDz Fsl** . From this we can see that the beak is also horn tip at this age but will likely darken in completely as an adult . There does appear to be an albescent strip on each outer tail feather, so smoky would not be present. Every feather is beautifully laced and tipped with spread factor blue/Black pigment. The bronze tarnish most likely will moult out.

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Here are the typical traits associated with a smoky factor (sy) phenotype . The terminal tail feather tips are much wider light blue. The sub-terminal tail band becomes narrower. I believe that this is also due to the depigmentation of a 'course spread' narrow

band found along the top edge of the smooth spread band. The overall bird appears slightly darker with a blurred Bar pattern, and the beak has only a dark tip or horn beak expression. Photo by **Anik Anis**. You may recall seeing some birds that have a very wide Terminal light band but are otherwise normal wild type blue bars . This may represent a heterozygous smoky specimen OR a completely different gene that also causes the terminal band to look like that of a smoky factor bird.



These photos by **Ryan Harvey** demonstrate presence of both albescent strip and Narrow sub-terminal .



Photo by **John Ferber** , this demonstrates the "Ice" factor and very often this phenotype has a very wide terminal tail band and narrow sub-terminal Band. The wing bars are often likewise narrower than usual. The birds are not outwardly darker due to the lightening effect of the Ice gene. They are however very dark skinned and may be hetero or homo Dirty factor as indicated by the very black beak.

Important to note that not all such phenotypes will have narrow bar pattern. This requires more study.

Here is an interesting combination of traits , photo by **Ibrahim Khan** .



One might immediately say that this bird is "EMBER" , an allele of recessive red (e), and there is another phenotype along these lines that is smoky factor. Here we see a light wide terminal band and a narrow sub-terminal band , BUT a very prominent albescent strip on the outer tail feather. The shield colouring may suggest Sooty (So) , but I am not so certain that it is. I think that the bird is hetero smoky and hetero Dirty factor. The beak is stained as opposed to horn tip. It would be interesting to learn more about the parentage of this bird.

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Back in the days of "MENDEL" he used the terms Factor and Gene interchangeably. Modern day ideas have separated the two somewhat so that Factor becomes synonymous with 'ALLELE". So , a gene is a unit of heredity information, a functional unit of DNA. An ALLELE is a variant form of a gene. This makes a factor a variation of a gene. Structural plumage colouration is considered to be a factor.

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While we are on the subject of tail band expressions , I thought we might be able to shed a bit of light on the subject of the so-called "RIBBON TAIL". Many of you have asked at various times both in chat and emails , "what is a Ribbon Tail?" Basically it is simply the 'smooth spread ash" colour that we see on all ASH-RED pattern series birds. However to make a good strong Sub-terminal Ribbon Tail Band, you need to create a contrast between the ash sub-terminal band and the ash of the rest of the tail feather. This is done by adding a bronze colouration. The bronze best used is believed to be Kite but this requires much more research as kite does not express well in the tail without other modifiers.



The addition of recessive red does more harm than good because it causes the sub-terminal tail band of ash-Reds to become muted or grayish in colour, rather than the desired whitish effect .

Over the years it has been wondered why can't we have a Blue series pigeon with a Ribbon tail, or a brown series Ribbon tail? There are ways to create whitish sub-terminal tail bands in blue series Pigeons such as shown here , but these are not generally considered as 'Ribbon Tails'. The term is only applied to Ash-Red birds with a brightly whitened (ash) tail band.



Photo by **Shoibal Sabbir**, this Blondinette is expressing ToyStencil full complex as well as frill stencil. He has a whitened tail band whereby most of the dark sub-terminal tail band has been de-pigmented by the frill stencil gene. These individual somewhat round marks are referred to as 'moon' marks. It is not considered as a Ribbon Tail.

Note that you can clearly see the terminal tail band is light or somewhat 'clumped' smooth spread ., then there is the whitened condensed smooth spread that is completely surrounded by dark pigment separating it from the rest of the feather which appears to also be clumped pigment. The albescent strips are intact. There is basal whitening similar to undergrizzle on each tail feather that varies in Stencil factor birds. Now it seems that we have a contradiction to some of the ideas as to what genes affect the various known pigment cells. Are we seeing coarse spread around the condensed smooth spread that is not affected by frill stencil., or is this residual smooth spread that is caused to be pushed to the outer edges of the sub-terminal tail band region? We cannot judge by the Ts genes as they do not express in the tail feathers. The bar of these birds is believed to be mainly coarse spread but it is white save a single dark line along one edge in similar manner as seen in the tail band. We need to study the pigment in these areas under a microscope to get a much better understanding as to just what is what., and why the modifiers react on them the way they do. Smoky, Dirty , and Sooty are not involved here.



This is an old photo so I do not know who took the photo or who bred the bird. This is what is ideally considered as a true "Ribbon Tail". The Lenanon Breed is well known for this phenotype and in some cases , particularly the blues and blacks , the Toy Stencil and frill stencil genes are suspected .

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Here is one we have discussed many times over the past number of years. It involves a gene that lightens feathers basally, especially noticeable on the larger straight feathers of the Tail and flights , primary and secondary. It was named Undergrizzle with the symbol (Ug) by Dr. Lester .P. Gibson and is considered a dominant autosomal gene. A few people particularly in Australia continually argued against such a gene and gave credit to pied factor as the reason for the whitened portion of the feathers, which of course was totally ridiculous. They did some testing apparently , and found that there was indeed such a gene , but never (to my knowledge) , gave a report nor any retraction of their previous comments.



Photo presented by - **Kamal El Motaouakkel**.

The Undergrizzle gene gives a phenotype that suggests that it may belong to the grizzle family at that locus , but it is not an allele. It stands alone as a unique gene. It has its greatest de-pigmenting effect on new feather and then reversion takes place with the first moult leaving only the aforementioned basal whitening that can be missed without careful observation in hand. Kite Bronze is often in partnership following up the flights where the (Ug) left off.



This Pouter also presented by **Kamal El Motaouakkel** shows us the de-pigmented base region of each feather so typical of several mutations. I think this is also Undergrizzle. Two other possibilities are 'Flash grizzle' and " Pencil ".



Here it is again showing the tail. It would have been nice to see the tail feathers spread out so that we could see how far up the feather shaft is white. Flash grizzle tends to leave more colour farther down the shaft or rachis so that the feather looks more laced like that of the tail of a spread factor frill stencil. Here I feel certain this is Undergrizzle.

Here we are at the end of another Year as we prepare to celebrate the Birth of Christ in the Christian sector of the world. May we wish all of you and your Families a safe , and Happy Holiday , and all the very Best in store for the coming New Year!

If all goes well , I will be spending Christmas alone here in my Home ., Jith and his wife Maya will be travelling from their places of work in Oman and Saudi Arabia back to join one another in India for a much deserved Holiday.

