

## The Pigeon Genetics Newsletter News, Views, and Comments

(Founded by Dr. Willard .F. Hollander).

Editor R.J. Rodgers Nova Scotia Canada.

Co-Editor: Jith Peter Palakkad India

(Where beginners and Pros work together for the good of genetics)

This Month , We thought that it may be helpful if we discussed various topics that you have brought up over the past year or so . Many recipients of the Newsletter may not have seen requests or suggestions either from the members or the Editors before now .

**Our first member Asks :** What is a "mis-marking and what causes it?

The answer is simple yet extremely complex.

**The quick answer** is : any colour with white or white with colour that you do not want showing.

**The cause :** Uncontrolled genetic inheritance.

When we choose a breed that belongs to the vast family basically referred to as "PIEDS" , we have to contend with "Markings" Many of these markings have been selectively bred to form specific "Designs" . We dealt with this topic over several Issues earlier this year. There are many genes involved that control the borders of these Designs based upon the various "components" that are formed together to create a given Design. We can see this clearly if we look at the components that make up the Lahore Design.



top right-

Here the "components" are each a single unite that when combined , create the desired total "Design" . The "Markings" are the outlines of colour as they are set to give a clean contour to the components and overall "Design" . I am certain that you will go to a show or other such meeting, and run into a great many different points of view , as fanciers have been using any and all kinds of other terms to try to explain what they have learned growing up in the Hobby, most of which makes no sense at all.

If any of the set contour markings do not comply with what has been established by a major Specialty Club for a particular Breed , then those irregular markings are called "miss-markings" or mismarked birds.

These mismarked birds will be penalized by the Judge according to the established rules of the Standard Book for the Association that is recognized in your area.

NPA , stands for National Pigeon Association - and Each Country usually has an NPA in their name. Examples : NPA of America., British NPA , etc.

The rules governing each Breed may differ from one Country to another. IF you are in a Country where there is no National Parent Body ., and perhaps not even any separate specialty Clubs ., then basically you do not have any rules that you can follow , which makes holding competition at a Show very difficult. The Hosts of any such show would then have to come to an agreement as to which other NPA Book of Standards they should follow, and inform all concerned.

Often local long time Breeders get chosen to officiate at these shows ., and they may simply apply their own rules as they go along. This can be very confusing and equally frustrating for the Exhibitors. It is very important for Club committees to choose a Book of Standards that they want their shows judged by ., and the guest judge (s) MUST be informed of that and be willing to follow that Book of Standards. IF you have local Breeds that are not included in the Book of Standards , then the Judge should be provided with the written Standard for those Breeds prior to the Show so he /she can make themselves aware.

Getting back to the initial question regarding what is a mismarking , the same old guideline must be followed . That is : BREED ONLY THE BEST TO THE BEST , and cull the REST! If you allow even one small mismarking in then of course you run the risk of it being reproduced.

We all know how difficult this is , but the rewards are well worth the added effort!

~~~~~  
**Question Two** : I want to put a new colour into my Indian Fantails , how can I do that ?

We also have discussed this many times before . Again it can be quite simple or extremely complex and therefore difficult. It can even take many years to accomplish that which you think you would like to do , so you must first decide ... (1) do I have the patience and **TIME** to do this , (2) Do I have the **Money** to Do this., and (3) Can I achieve it faster by **simply importing** the trait already established in the Breed .

Once you decide that you want to proceed, then you need to take a close look at what you have available . First you should choose , in this case , the **BEST quality Indian Fantail** possible, this will be your **recipient** Breed.

Then look for the colour trait that you want to add , and try to get it in a Breed , your **donor breed** ,with as many traits as possible that are similar to your Recipient Indian Fantail Breed. You need to know each and every trait and which are recessive , Partial Dominant and Dominant. You will want preferably a Fantail , a peak crest, Muffs of medium length , and a weight of about one pound (16oz.)

Colour traits can also be extremely complex , so you will need to understand completely just how the trait you want to bring in works with the traits you already have . An example would be the "STIPPER" gene for the (Almond) phenotype. If you want a very richly coloured Classical Almond , then you do not actually want "SPREAD FACTOR" as that will cause some of your almonds to be sprinkles with a Tiger grizzle appearance.

You should ask experienced Breeders if possible to advise you along the way. That can be very difficult to

do and often Breeders will try to avoid helping as they cannot guarantee that you will get the result you hope to get. You may recall a chart that I gave some time ago to show the placement of the Mookee design into Indian Fantails. This could take 25 years to accomplish.

The main reason for it taking so long will be due to you wanting to get started too soon and using offspring of the f1 generation that simply are NOT suitable. You must raise many young in that first generation and choose **ONLY** the best specimens to produce the f2 generation of young and so on .

The same applies when you make a Back-cross to a specimen of the recipient Breed. This can be your original Indian Fantail but that will lead to close inbreeding after several generations , so you may want to go out to a different bird. Again the **BEST** possible type bird must be chosen to avoid as much as possible adding faults. The general rule will be " No haste , less waste."

The same applies to knowing what genetic traits are **recessive , partial dominant , and dominant** . The less trial and error , and general guess- work, the better!

~~~~~  
**Question** : What exactly is a "SPLASH" ?

Answer: A splash is any combination of colour and white that does not represent any established standard Design ., or single component of a Design.

We dealt with this topic during our three issues on Pied factors .

The confusion comes from so many people referring to the various Mottles as Splashes .

Below are a few examples of each to help us demonstrate the differences.....

Starting with an ash -red splash bred by Nabiul Islam Babu. It demonstrates the typical splash markings on the upper half of the bird in particular.



Ba//?, Pi//Pi,

Splashes usually have the patches of colour on the upper half of the bird as opposed to the underbody areas.

Some people mistakenly refer to MOTTLES as splashes . Mottles are birds that express a mix of coloured feathers and white feathers . Typical Mottles are usually heterozygous ( one dose ) Tiger grizzles.



Eddie

Carleson's Tippler by Layne Gardner.

Some hetero Tigers will have a large amount of white and some Homo Tigers will be nearly all white .

There are many variations of this phenotype with a variety of genotypes. While they MAY look alike or quite similar , there may be considerable differences in the genes that made them look the way they do . So the general rule is to call any bird with patches of colour basically on the top areas of the bird , a SPLASH . Then any bird that has a more or less even mix of colour and white over the front half of the bird , a Mottle .



Photo Mick Bassett.

When two doses of the Tiger grizzle gene come together , then the bird may appear as an even mix of colour and white over the entire bird , and thus a TIGER". Sometimes Pied factor is involved also .



Tiger by Himanchu Katyal

There are exceptions such as STIPPERS , these are birds that have a speckled effect caused by the Stipper gene or as most of us know it , an Almond combined with spread factor. There are many examples of this trait.

Below , is an indigo Stipper , ( combination of Andalusian and Stipper) by Octavian Sarafolian.



~~~~~

"HI Bob; Bob would it be wise to pair back to Dad, to see what happens ? This is her at 45 days, still a bit erratic at feeding, The second nest which had one that looked the same but died at 2 days old, not so sure if it's worth keeping, cannot see any forward thinking on it, what do you say?"

There was extensive discussion on this at our Facebook Group "Strictly Colour Genetics for Pigeons".

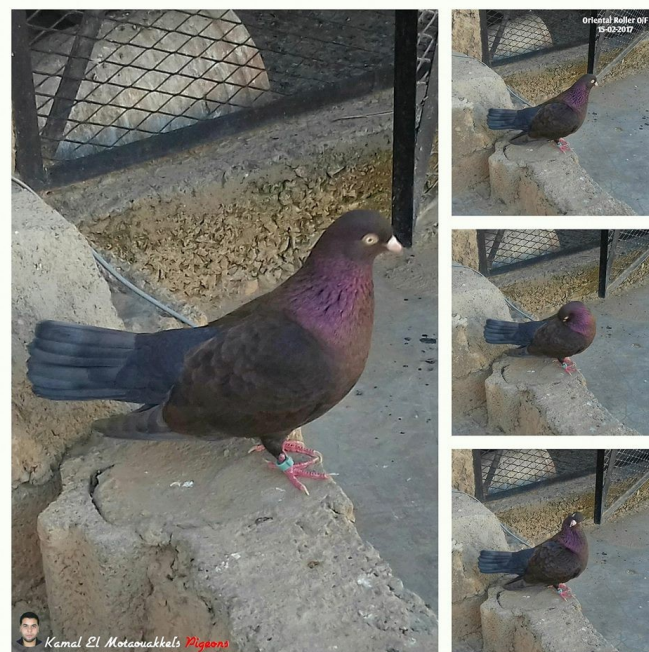
It was Galatzer Roller who identified this as Pink-eyed dilute.



Answer: Certainly seems rather futile , I would not cull this one , just to use it as a learning tool on behavior as it progresses . It's tail and Muffs also are lacking as far as a Breeder of worth goes , and I suspect size and stance also . Love the eye colour though! The wide

terminal tail band along with the Sub-terminal band spells smoky., but there does appear to be albescence of the strips and rump. I wonder if there is an exception to the semi-blindness that can be achieved by certain matings a bit like was found with strains of Dominant Opals etc.? The overall gene that is expressed is called "pink-eyed dilute" and with this gene comes a poor vision trait and as a result , a co-ordination deficit in many cases . Pink - eyed dilute is a recessive autosomal as has been stated earlier , so as such ., it can be carried by either parent just like recessive red.. These genes can be carried hidden for generations before popping up. While no eye problems had initially been observed ., the expression in the photos and further observation by owner Roger Smith confirmed vision problems.

~~~~~



"Hello Bob and friends, can you please define this color?"

Replies: Looks as if it may be a smoky Indigo blue t-pattern. ( Bob R,)

Galatzer Roller - Or she could be Ash-red t-pattern Spread smoky and hetero for rec red.

Bob Rodgers -That will be easy for him to determine as all of her sons from that mating will have to be some form of ash. You may be correct as the toenails seem very white even for smoky, and the smooth spread primary and secondary feathers are very light tipped.



**Bob Rodgers** - flights of Indigo blue check bred by Ryan Harvey for comparison.

**Kamal El Motaouakkel** - Moreover, her parents are both rec reds!!!

**Bob Rodgers** - In response to your comment that both her parents were recessive reds , that of course is not possible , unless as you may have observed , the recessive red mother was covered by a male of some other genetic makeup to sire this hen.

**Kamal** - But when I watched , her mother showed me that it let cocks intermarrying with it!

~~~~~



"Hello Bob and friends, please what type of Almond is this cock? And can I get from him another color and another Almond phenotype? His female mate is blue."

**Bob Rodgers** - Yes as you probably know , the Stipper gene is a Dominant ., and half of his young will therefore be Stipper/Almond and the other half based on whatever else is involved. The Blue hen will contribute only blue and whatever pattern (s) is/are involved . He looks typical of a blue series Almond , but beyond that we cannot tell much without knowing more about his pedigree. I would be hesitant to breed

from him due to what appears to be an overgrown upper mandible , , unless that is a desired Breed trait I am not aware of in this case. Colour should always take a back seat to Breed type and conformation.

**Shoibal Sabbir** - None of them look almond to me(the two whites are classical grizzle)...main posted father must be a hetero almond....if possible change the blue mother apply kite...

**Octavian Sarafolean** - The tail and primaries are too dark for an almond. I'd go with qualmond .

**Octavian Sarafolean** - If the son is almond, then the father is almond too.....but the youngster still has that gray feathers on the tail...is it possible to be dilute?

**Bob Rodgers** - It would have to be a hen to be dilute in this case , however your point about the flights and tail not having any noticeable "break" and dark flecks indicates that something else is involved . Shoibal's point regarding Grizzle is a possibility . The combination of (G) and either (St) or (St^Q) and a possible Pied gene may all be working together to give a variety of phenotypes . Odd that there have not been any typical Blue Hetero (G) though ! Any others with Ideas ?



I did not print all photos or comments here , but most felt that the original bird is Qualmond and thus a number of his young also. Grizzle (G) was also discussed, as some young were very grizzle-like from a blue checker, but appeared stork as opposed to hetero (G). I think both are blue stipper , minimal bronze., with Print Grizzle . They likely will darken with age but that will depend upon the grizzle involved also. Hope we can provide a follow-up.



Shoibal Sabbir - Is it dirty ash hetero rec.red?

**Bob Rodgers** - I have discussed this one with Shoibal , and he also asked if I thought Gimpel was involved . I first thought not , but upon enlarging the photo , think it may at least carry some of the same modifiers that are passed on to hetero Gimpel birds. Smoky appears to be present and as he suggests , most likely hetero (e) recessive red . The bar may also suggest more than het . (e) by the dark outer edging , possibly Ts1 ? However we are not likely to ever know for certain. Not Ember !



Shoibal Sabbir - Mosaic(pied)...

**Bob Rodgers** - A very attractive Mosaic involving Intensity and dilution , Blue and what I first thought was ash ., but Shoibal confirms is brown series. TS Complex and frill Stencil.



Tail of the Mosaic at bottom left.



"Ranjith Balram's post that I shared on Unnamed Unique Genetic Pigeon Traits.

Ranjith's pigeon presented some interesting variations that are not usually seen together. The rich ash /bronze body and neck with black feathers is more typical of an Almond , than one would expect on a Qualmond . The tail however is much more typical of a Qualmond. It drew quite a bit of reaction , I have edited that and present some here ."

Dan Skiles Jr. - Qualmond?

Michael Spadoni - Yeah I go with Qualmond too, and some form of Bronze + hetro rec red.

Bob Rodgers - From the breeder , via another source , this is a hen and the breeding was at first a secret. The open tail suggests no albescent strips , but the other pics seem to show those clearly. If ash-red t-pat. the het. (e) would explain the tail and secondary flight colour somewhat , and the bronze neck, but the tail band is too strong for an ash . If Blue series , this seems to be a lot of bronze for a Qualmond . ??

Michael Spadoni - Definitely blue based, here is one I had, The guy that did the cross used a Modena so looks to be some Ts1 and (K ) involved, this was also +//e, +//d



Ranjith Balram - Hi Bob ,First and foremost ,thank you for selecting our bird and igniting the discussion. The post bird was raised by my wife by pairing a classic almond Jacobin with an English Fantail (Double shade-Lemon/yellow coloured tail).The parent birds in the second breeding gave a dun coloured bird with the same marking as the bird shown in the picture. I paired both of them and now awaiting result.

Michael Spadoni - Ok so she is a Almond hen,T pattern with Lebanon Bronze from the Jacobin. Just looks Qualmond due to the lack of break, and so much ground colour.

Dan Skiles Jr. - Could still be qualmond. It can mutate from almond. Tail looks qualmond. A lot of mutations are overlooked or unrecognized. All my qualmond came from a qualmond that mutated out of almonds in the loft of Lynn Kral.

Ranjith Balram - Her parents.



Michael Spadoni to Dan Skiles Jr - I agree about the St series mutating, I have a Qualmond that bred a Faded out of.

Being it's an unstable gene you would expect variation.

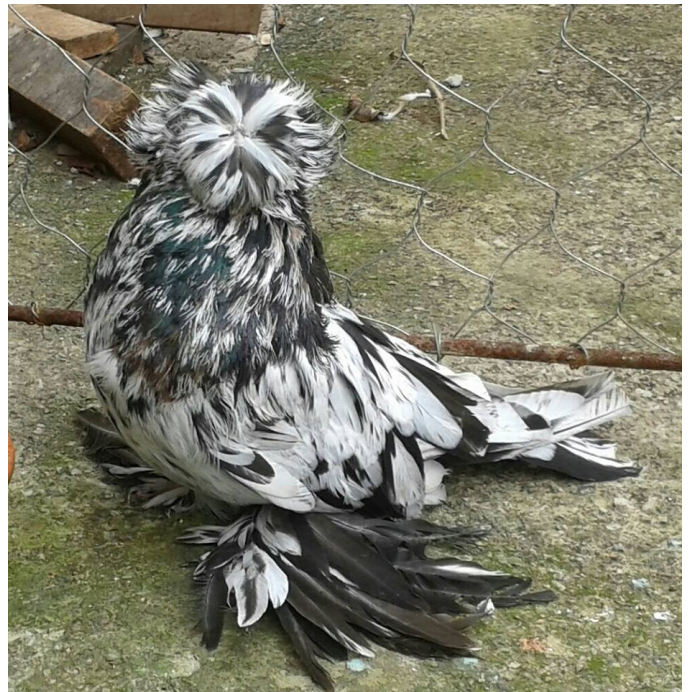
That concluded the input , what do you think ? Is the post hen an Almond or a Qualmond ? I think Almond with modifiers and a bronze , not Lebanon but one found in Jacobins , Lahores , and Indian Fantails , dilution and of course hetero recessive red .

"Below top left , is a Post that appears to be a Qualmond and it also drew considerable input :

Post photo :



Paternal Grand sire :



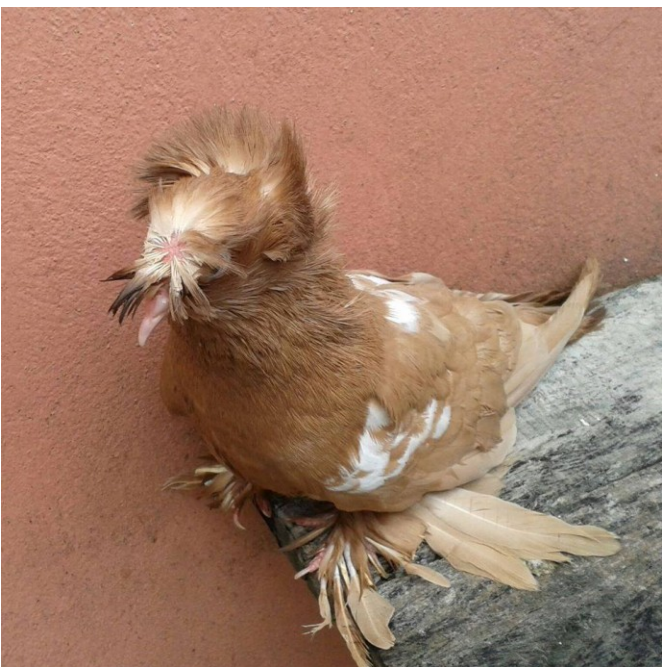
Sire :



Paternal Grand-Dam :



Dam:



Next will be a photo of the Paternal Great-Grand Parents. The hen appears to be a spread factor Qualmond and the sire a Dark checker .

( Qualmond mutated from Stipper and is it's slightly recessive allele that can be carried by any Almond that has been bred from an Almond / Qualmond mating ).





**Steve Porter** - my best guess for post bird is qualmond but the red isn't part of the typical phenotype , a mosaic possibly ?

**Steve Porter** - the red in the post is very strongly expressed could it be a bronze ? some feathers appear more tipped than full red. Almost has a look of indigo.

**Bob Rodgers** How about a smoky Blue checker Stipper het (e)?

**Octavian Sarafolean** - I'd go with spread qualmond hetero rec red.

**Steve Porter** - does (e) often bleed into qualmond phenotype and would it not express in other areas seems to be neck and pattern areas doesn't appear to show in rectrices or muffs.

**Bob Rodgers** - I am surprised that it appears to be having this much effect at all . I will show you one more " helpful " shot of the bronze.



**Steve Porter** - grandsire must be st//stq so how the blacks ?

and -

Im still lost with the movement of the qualmond through the generations.

**Bob Rodgers** - I checked and the Blacks were full siblings to the sire of the post bird out of the white hen.

**Steve Porter** - so he must be st//+ .

**Michael Spadoni** - The Sire is a sprinkle (St & S) the Dam a Recessive yellow ( e & d)

The youngster to me looks spread Qualmond.

I have found some variation can be bred from Stippers, It is very unusual how much red was showing in the nest feather as Bokhara's have next to no bronze in the breed.

**Steve Porter** - do you mean variation in the alleles ??

**Michael Spadoni** - Yes, I have a qualmond hen that breeds as close to pure white as you can get with next to no break{flecks} and then some that have the grey ground colour with more break. I think possibly part of the instability of the St series?

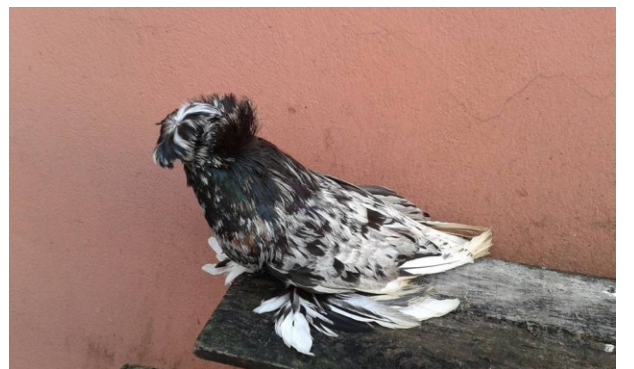
Editors - We edited out quite a few brief comments and altered some responses to read better , from the original discussion as we sorted out some of the photos etc., Below is the Grand-sire as he ages , 3 photos., and the sire of the post bird 3 photos .

**Bob Rodgers** -This post was never fully resolved . I deleted one of my comments as I had originally thought that the Great Grand-sire was a Spread stipper , but upon a closer look , I think not at all. That takes us back to Steve's point of not being able to follow Qualmond down through the generations . If there was no Stipper at the top , then ALL phenotypes that appear to be Stipper would have to be Qualmonds as it has to either be carried by a Stipper , or be expressed by a bird in each mating. The sire and grand-sire must be spread Qualmonds , not Stippers.

Paternal Grandsire .



Sire .



There is no doubt that Qualmonds can be considered "rare " to very rare in many parts of the World even today. Qualmond is an allele of Stipper having mutated

from Stipper and it is slightly recessive to Stipper so that Stipper/Almonds can carry and produce Qualmonds , but Qualmonds cannot carry and therefore cannot produce Stippers, unless mated to a Stipper.. If in doubt about a phenotype , try producing a richly coloured Almond from it ., IF you succeed , then you know for certain that it was indeed a Stipper.



Anwarul Kabbir's blue T-pattern Almond hen Indian Fantail X Lahore cross. Note almost no white break due to (1) extensive bronze, and no flecking as this is a hen pure for the (St) gene which usually will not express any strong amount of the base pigment , and does not carry a second sex-linked trait.



Mike Walter's beautiful Qualmond Black, hetero (e) Russian Tumbler. B//+, S//+, St^Q//+, +//e ?.



How is this for "FIXING" a Grizzle trait ! I assume that Pied factor may also be at play . These were bred by **Mohsin Ali** of Scalkoti Pigeons and he says that they breed true every time. There is no homozygous phenotype such as stork or near pure white . These seem to be a fixed variation of what we in the West call "Print Grizzle". There are a number of apparent fixed variations of Print Grizzle in kits of High Flyers in the Eastern Countries. I do not believe that a great deal of study of the Print Grizzle has been done anywhere since the initial findings by Dr. Lester .P. Gibson .

*The last say goes to the TERM " BREAK". You will see it incorrectly used on just about every Genetics Website and in just about every Text Book on the subject. Below are several photos to demonstrate what we mean !*

*Photo one below top left , ( almond ) blue check -David Sandhoff.*

*This is a beautiful Indian Fantail that may darken even more with age .*



Photo two , (Almond ) dark check - Joe Power .



On each of these birds you can clearly see that the "BREAKING " action of the STIPPER Gene causes a whitish effect on most feathers. The only exception to that "Break" is either some residual base pigment that resisted the breaking action OR bronze that also impedes the breaking action of the Stipper gene! The dark Residual pigments ARE NOT BREAK !!

They are just what it says , residual pigments , and the residual base pigments gradually regain their positioning , and over ride the Breaking action as the bird ages. This is called "reversion".

You will see residual pigment in some of the other alleles of Stipper , such as Qualmonds , but the cause is a much different action upon the base pigments so that an overall colour softening takes place as opposed to the definite break caused by Stipper itself.

The combination of T-pattern, bronze and in some cases hetero recessive red , will allow considerable red colouring to remain such as in the case of the second example. Note the amount of BREAK on the flights where the Stipper Gene had very little resistance from the smooth spread of the flights.

When we add Spread factor and no bronze , we see the true Sprinkle trait of the Spread Stipper whereby the Break and the residual pigment create a somewhat "mottled" or sprinkled black and white effect in the blue /Black series Stipper birds , ( not shown here ).

In the case of the so-called "Classical Almond" there is almost no visible BREAK , but rather a rich mix of Bronze and Base pigment overall . The flights and tail have less bronze , revealing more actual break. Ideally some base pigment(s) , some break and some bronze . Photo Jijo Thomas.





Mike Walter's Russian Tumbler Spread Ash Qualmond .  
*Ba//+,S//+,St^Q//+, C^T// ?.*



Spread ash Stipper hetero blue/black with minimal black flecking , and a larger amount of whitish Stipper break.  
 Photo by Octavian Sarafolean.

*Ba//+, S//+ , St//+, C//?*

You can easily see that without the Stipper gene , there is no BREAK, but there still may be considerable trace residue of a carried allele to the base pigment. In the case of long soft feathered breeds such as the Jacobin and the Bokhara Trumpeter this hetero blue /black residue can appear extensive and has given rise to the term black ash.

Stipper (St), has a number of alleles " alternate choices at the same spot ( locus) " on the sex chromosome . Most show very little, if any BREAK, due to a tendency to cause a type of reduction to overall pigment expression, and as a result there is less residual base pigment lingering in its original state. Hickory is an exception. The alleles are : Qualmond , Frosty, Faded, Hickory, Harlequin, Chalky and Sandy. More are suspected with one that expresses only in the tail feathers reported by Dr. Lester .P. Gibson a number of years ago in his flock. Finally Pure Qualmond males may be quite white with residual pigment scattered in the neck and shield areas including the Flights and Tail and may resemble Almonds.

SEE YOU NEXT MONTH < From The LOFT !



Spread ash hetero blue/black, ( no break) Classic Old Frill by Shoibal Sabbir. Both birds have red bars probably due to a bronze trait different in each . (*Ba//+,S//+,c//c, Ts1//+*).