

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.

May 2022

April Showers bring forth May Flowers!



I thought we could spend a little time discussing the 'SATURATED "T" Pattern'.



We will often hear people saying that the three prime darkeners are responsible for changing a normal Checker into a saturated 'T' Pattern. However we have mentioned the U of U study in the last issue whereby they found additional copies of the gene or genes that darken the pattern. There seems to be much more involved. Let's take a closer look. The photo to the left shows a very nice example of both a Dark Checker (C^Dk) and a normal Checker (C) patterns. Owned by - **Tarikul Pigeon Loft**.

The photo below is by **Tom DeMunnik** of Canada and demonstrates a very darkened bird that appears to have a Bar pattern. However it still could be a T-Pattern that has the bars showing slightly darker. It has an albescent strip showing on the outer tail feather so we immediately can exclude one of the so-called darkeners "smoky". The underbody and tail feathers are lighter than the shield and therefore we know that this is not the same trait as the Saturated T-Pattern Blacks used in the ESFT classical Almond breeding programs.



The Saturated T-Patterns like this one, lack high feather sheen which may also play a role in causing the deep rich black saturation.

Below we can see on this youngsters phenotype that he is homozygous Dirty factor by the blackened feet and early darkening of the beak. Yet again we can clearly see that the underbody and Tail feathers are not darkened substantially, however the shield appears to be darkened enough to mask the actual pattern, thus it is fully saturated.



Interestingly enough, if we add smoky to either of these birds we will not get a darker version but rather a lighter version thus the name 'slate'. So we can see from this that the two together (smoky & Dirty), are not likely what causes a saturated T Pattern. Photo Compliments of **Jazzy's Loft**.

As I said above, we mentioned last Issue that the University of Utah study stated that the darkest specimens had a greater number of copies of the gene that made them dark check to begin with. The genetics behind this inheritance is still not completely understood.

{In my tests of Wild caught Saturated T-Pattern specimens, I selected for the darkest pairs but still did not get any pseudo Spread factor offspring. Obviously there would be recessive genes to produce lighter patterned birds. There must be something else that causes those with greater number copies to be fully black. I suspect that that something comes from early crosses with the Gimpel Archangel. We see that effect in the saturated T-Pattern Kite bronze birds used in Breeding Classical Almonds. Their ancestry is said to have traced back to the Gimpel black wing.}



So, what about smoky (sy) ? We know that smoky lightens the beak, and feet but we keep hearing people say that it 'darkens' the rest of the bird. There is a tendency for any whitish areas, (albescent feathers) such as the outer strip edges of the tail and the rump region, to be darkened. The underwing areas are also said to be slightly darkened. The overall effect on pattern is to cause it to appear to be blurred and the bars to appear wider than normal. Some may argue that the opposite left photo is a T-pattern affected by Sooty. Some may call it a slate. I would agree with the latter in that I think this is a T-pattern smoky factor bird that is not Sooty but resembles the effect of Sooty. Photo thanks to **Nasir's Loft** - Pakistan.



Here we have a clear cut example of a beautiful Sooty factor (So) Racer that also appears to be heterozygous for Dirty Factor (V).

He may also be homo for smoky factor as the bars appear to be much more blurred than a normal sooty and the rump is not albescent.

Photo by **-Domenico D'orta** .



Sooty without smoky , the bars are clean cut and distinct.

Photo from Feral Study flock - Bob R.



Smoky factor dark checker and possibly hetero Dirty factor feral pigeon showing the darkened rump but lightened back 'heart' at the nape of the neck so typical of the smoky gene effect on dark birds. Other photos show that this bird had no tail albescent strips either. The overall pattern appeared blurred as the clumped smooth spread centers of the shield feathers were slightly darkened. The sub-terminal tail band is slightly narrower with a wider light terminal band or tail tip. Note the very dark wide wing bars. Variation in tones may be due to the number of pigment colour copies. Photo from Feral study flock - Bob R.



Another shot of the Sooty bar from above that has the clean cut normal bar pattern as opposed to the wide blurred bars of a smoky factor bird. He is clearly not Dirty factor but he still has a normal dark beak.

Photo - Bob R.

This tail shot reveals a number of gene anomalies that seem to contradict what we normally think of as fact about the darkening genes. It appears to be smoky(sy) but lacks the light terminal tail band giving



just a wide sub-terminal band. The albescent strip is expressing but very minimally. The bar pattern looks wide and blurred and there is no albescence on the rump. There are dark inner vanes of the tail feathers which 'may' be coarse spread. These are key to placing bronze in the tails of Almonds. This total phenotype was deemed by Dr. Gibson as something new in genetic expression.

Photo - Bob R.

Below is a smoky ash-red Bar By **Umar Faruk**



Next is another smoky Ash-Red bar by **Abdullah Al Qafi**.



Both ash reds are expressing some shield red but may be due to Dirty (V) factor.



A smoky factor blue bar presented by Sahroz Khan. Note that there is a slight hint of darker pattern on the back area as was evident on the ash-reds above. This may be due to hetero dirty factor as this bird does seem slightly darker than many non-dirty smoky factor birds. The horn tip beak is typical of smoky as is the wider light terminal tail band(tip) , and the narrower black sub-terminal tail band. The bars appear typically blurred thus wider. There is no albescence showing on the tail and back/rump area.



The next photo directly left is also a smoky factor bird but it is not hetero Dirty factor ., presented by Octavian Sarafolean. There is a beginning of a third bar. The trace smudges on this birds shields seem to be a very light expression of Sooty factor.



The following photo bred by Shoibal Sabbir demonstrates a bird that appears to be hetero smoky and expressing Sooty. While he does express smoky traits , he has albescent areas of the tail feathers and upper back region indicating that he is not pure for smoky.. The beak is more stained than horn tipped. He also has a partial third bar.

This demonstrates that a range of phenotypes can be expected depending upon just how the various gene traits come together in any given mating.

Smoky hen and Sooty Cock blue bar Indian Fantails by Shahidul Pigeon Loft - Gazipur.



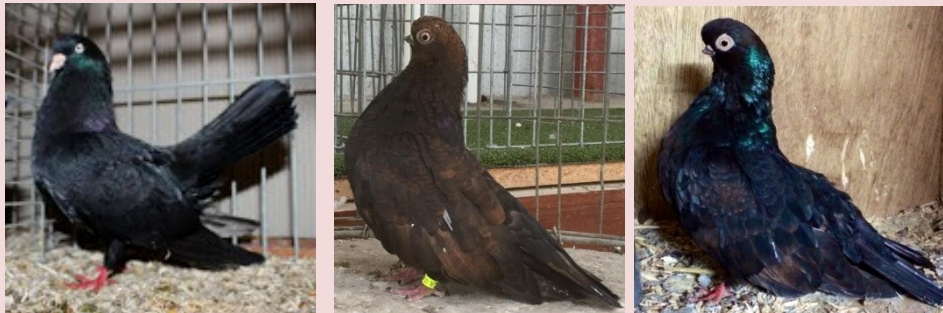
Above is a T-Checker American Show Racer. Note the very dark shield with a "T" pattern left at the end of each feather. The underbody is not darkened at all as in this dark shield colouration. This would be referred to as a "Tic" pattern if Toy Stencil was also involved. Photo: Mahmut Caglar.



This is another example of a smoky factor bird presented on my Facebook Group Strictly Colour Genetics for Pigeons, by [Kamal El Motaouakkel](#) . The beak is more evenly dark suggesting that Dirty factor may be present as a single dose. Otherwise everything is quite typical of smoky factor. There seems to be a slight third

bar but scattered on the shield perhaps due to some moulted feathers. You can see that no Sooty factor trait is evident.

Now - What about these dark specimens?



The first, an Oriental Roller, is a spread factor blue/black that most likely is also carrying recessive red and expressing smoky determined by a clear beak and no tail albescent strips, photo by [Mick Bassett](#).

The second bird is a homozygous Saturated T-pattern bred by [Rob Grogan](#) that is also homozygous for at least one bronze trait expected to be Kite. She would also be homo Dirty factor and possibly heterozygous for recessive red.

The third is also a Saturated T-Pattern ESFT by permission of James Ellison provided by Jith Peter. It shows the 'undercoat' Kite that I have previously coined. It may carry recessive red. The Oriental Rollers that are referred to as KITES due to having at least one dose, but usually two doses of Kite Bronze are not exactly the same genetic make-up as for the ESFT's . This seems to be the reason why Typical Rosewing / Mottle wing red agates are common in ESFT's but not seen in Oriental Rollers. Both Breeds will have other types of whitened recessive reds but the genome of these still is not certain. Some are clearly "Print Grizzles". There are those which appear to be Tiger grizzles. However it does seem that when Homo Saturated T-Pattern birds that have homo Kite are combined with recessive red, a whitening takes place during the first moult such that whole white feathers grow out in place of the red mainly on the shield area; aka Rose wing or Mottle wing. From the above info we can deduce that the three main darkeners do NOT constitute a Saturated T-Pattern Kite.

The mottle shields have been seen on Tortoiseshell Print Grizzles also. One of the problems with recognizing this is that many breeders think this is a Tiger grizzle rather than a Print Grizzle, and I was

also once of that opinion. I have since changed my mind after studying many specimens. This white trait should not be confused with that seen on Red agates, to be discussed in more detail in an upcoming Issue.

Print Grizzles : Steven Walsh Kite T-Pattern , Rob Grogan Sat.T-Pat., and Mick Bassett spread .



Tiger grizzles for comparison: Kite T-Pattern , Sat. T-Pat ., and spread - photos by :



Jan Lombard

Riyaz Pathan

Akhlis Uddin Ayon

Classical Grizzles for comparison: Kite T-Pattern , Saturated T-Pattern and spread.



Gwill Stenhouse AARC

Guy Rooster Adams

Levi.

~~~~~



Homozygous grizzles -

Print - **Shoibal Sabbir** ,

Classical - Bob R. and

Tiger - **Duiven ~ Pigeon.**



**Brander** with 'Print' grizzle - Photos - **Mick Bassett** England/Germany, and **Rob Grogan** Australia .



Last Issue I mentioned the *Columba livia Affinis* , stating that it was a species of wild pigeon and that it may possibly have been a candidate for the Check pattern in our Feral and domesticated Pigeon Breeds. **Hein Van Grouw** sent an email to correct me. It appears that it is not a separate species from *Columba livia*. Levi lists it as a separate species and I have seen it advertised for sale as a separate species here in Canada. However Hein sent this explanation:

Hi Bob, Thanks for the newest News Letter. Very nice you paid some attention to the Rock Dove and the “wild type”.

You mentioned *Columba affinis* as a wild species of pigeon closely related to the Rock Dove *Columba livia*. That is, however, incorrect as *Columba affinis* as a species does not exist and never did; it was the name for semi-domesticated *Columba livia* which was thought to be a different species.

In the past, several ages ago, pigeons were often kept in semi-wild condition, so the distinction between wild and domesticated was not always easy. In England, for example, in the middle of the thirteenth century, following France, keeping pigeons became very popular. Large stone “pigeon houses” (dovecotes) were built, often in the form of towers, and some of these could accommodate many hundreds of pigeons. These pigeons were kept and bred for their manure, eggs and meat. They had free refuge and had to scrape together their own food in the fields, and they only used these buildings to breed and spend the night. The possession of these extensive structures with pigeons was only reserved for the noble men. The poor farmers were the victims of this because the huge flocks of pigeons destroyed their harvests. In England alone there were about 26,000 such pigeon houses in 1651.

The majority of those pigeons, known as 'Dovecote Pigeons', only deviated from the wild Rock Dove because they were checker, and the checkers became so common over time that it was thought to be a different species. Edward Blyth, an English ornithologist, described and named these pigeons as *Columba affinis* in 1847. The name *affinis* is Latin and means 'related', so Blyth probably believed that the Dovecote Pigeons were related to the Rock Pigeon, but still different enough to name them separately. The fact that these pigeons were different from the wild Rock Pigeon due to the (hereditary) colour mutation checker led to them being mistaken for a different species. Such a 'mistake' has often been made in the past by ornithologists. It is "shocking", however, that Levi with his knowledge about pigeons, also believed that *Columba affinis* was a distinct species. And perhaps even more shocking is that, based on what is written in the News Letter, people nowadays still believe it is a distinct species ☹

Cheers. Hein

Editor { My thought on this is that since the Checker Pattern has been found by the U of U to have been introduced by a hybrid outcross to *C.guinea*, all blue checker pigeons back in the day would have at least been a man-made sub-species of *C. livia*. Either that, or the U of U professors have it all wrong and a fellow in England shows that the checker pattern is just another mutation within the species *C.livia* as has been the belief all along. Has anyone else got any information on this topic to share ? Hein mentioned in another Newsletter that raising hybrids of *C livia* and *C guinea* proved very difficult due to the young not being able to utilize the milk of *C livia*. Foster parenting with Dove species apparently was one option. Given that this all seems to have taken place well before 1847, I think we have to study the entire matter much more closely.}

^^^^^^

Several Breeders have recently been crossing *C. guinea* with various domestic breeds. Below are some photos with permission from Breeder **Lukas Poweleit** . He has noted that the young hybrids die at about 4 or 5 days of hatching and that this coincides with the domestic Pigeon parent starting to feed whole grain. The young are fine while the grain is in the crop but soon after the grain moves on into the digestive tract, the young die. He is experimenting with feeding the parents only the small seeds such as millets etc., and the young do not die at this age.





~~~~~

Now back to T-Pattern and the effects of the grizzle family. We do not know just what happens to 'grizzle phenotypes' when alleles are mated together. We recognize that these are alternate choices based on dominance. I suspect that Spread factor Print Grizzles and spread factor Tiger grizzles have been crossed frequently under the one category "Tiger" by mistake. This would cause considerable confusion in identifying the source of white mottling in phenotypes such as found in the (St) Almond genome., and indeed in breeding grizzle pigeons of any colour combinations.



Two grizzles from **Levi's Encyclopedia of Pigeon Breeds**. Neither are Tiger as we can see some feathers that are 'grizzled' as opposed to only pure white. I suspect the first bird is Print Grizzle, and the second Classical Grizzle. One hint is the breed, a second is presence of Kite/brander, and third is chin patch.

A trait that may play a large role in the phenotypes of many colour mutations is 'Undergrizzle' (Ug). It is not actually classed as a member of the 'grizzle' family, so not an allele of the other grizzles. It can mix and match with just about anything. It de-pigments (whitens) the base of feathers in the nest feathers of both Hetero and homo specimens. Upon the first moult, there is a dramatic reversion of the base pigment. It is almost impossible to say when it does or does not present itself in both Print and Classical Grizzles, and has long been thought to actually be one of three components of a 'Print' grizzle. The other two being Tippler bronze and Classical Grizzle. I believe there is sufficient evidence that Print and Classical are two distinct allelic forms of Grizzle. I also expect that (Ug) combined with Tiger grizzle would cause additional confusion in identification by phenotype.

There seems to be a link between Undergrizzle and both Kite and Brander Bronze. Since we do not fully understand the Bronze family, it makes it impossible for us to fully understand the synergistic relationships between bronze and Undergrizzle. Below I have provided some examples of Brander Bronze birds with thanks to their Breeders to demonstrate how Undergrizzle and Brander appear together. There can be a fine line between some of the specimens making an absolute identification somewhat more difficult. Keep in mind that these specimens most likely do not also include recessive red in their genomes. None of the birds express the Rosewing or Mottled shield that otherwise would be expected when T-Pattern, and recessive red come together along with a whitening gene such as Undergrizzle, or one of the Grizzle family alleles.

Brander and possibly hetero Undergrizzle. - **Saeed Hasanai.**



Homo Undergrizzle and Brander. - **Bobin Vai Loft**

Some grizzles are de-pigmented to the point that they appear pure white.



Md Forhad Islam -

- I suspect this is homo Print, Homo Undergrizzle and possibly Homo ash-Red but it may be blue/Black base. The coloured Iris and stained beak shows us that it is not recessive white.

The main aspect to be considered for all of these grizzle expressions is the fact that the "PATTERN" that is obscured by the de-pigmentation of base colour makes the difference in total expression. Barless and Barred pattern birds will normally express less colour than the darker patterns of the Check series. The type of grizzle and the type of bronze will also each have their own effect on the final phenotypes. In addition , the base pigment , the colour Phase (Intense /pale/dilution/ Ecrú) , and other modifiers will contribute to the overall type of expression that can be expected.

J think that the wonderful photos provided above along with my explanations , clearly demonstrates this idea in a manner that has never before been articulated and provides you with as much detail as can be found anywhere. J hope you will take the time to read it carefully and study the photos. Then J hope you will participate by writing to me - Bob_rodgers555@hotmail.com

{ I have used some photos without getting direct permission from the Breeders/Photographers as I was unable to locate them via the Internet. Sometimes this is because they no longer are involved with the Pigeon Hobby and/or with Social Media. I sincerely hope that everyone will be agreeable to having their birds featured in this Issue, and I have given credit in their names. I appreciate your assistance in this regard.} ~ Bob R.



I leave you with this photo by breeder **Walter Wojcieszki** of a Saturated T-Pattern Kite Oriental Roller squeaker . Note that it is indeed homo Dirty (V). But also note that the toenails and the very tips of the toes are white. The piping tooth at the tip of the beak is white , but that will disappear shortly after hatching.

That is it for May folks, hope you are all keeping safe and healthy. Those of you who have shared your news of poor health etc., all have my Prayers and concern. Stay positive and take good care ! Next issue we will talk more about the so - called AGATE , and some of its possible causes , if you have photos and any thoughts please convey them to us for inclusion. In the meanwhile that is it from my Pigeon Loft to Yours.