

# The Pigeon Genetics Newsletter, News, Views & Comments.

## The Pigeon Genetics Newsletter, News, Views & Comments.

(Founded by Dr. Willard .F. Hollander)

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This Month : **"Head over 'Tails'"** -- a look at Tumbling, Rolling , ground flips and summersaults.

We begin with an article from ' ScienceNews' The magazine for the Society of Science., April 2024. This was sent to us by Jith Peter, former Co-Editor of our Newsletter.

The article: IV. OF UTAH GENETIC SCIENCE LEARNING CENTER; COURTESY OF A. SAMANI. Reprinted here - ( For educational purposes only )

THE SCIENCE LIFE Why pigeons do back flips.

Atoosa Samani started learning about pigeon genetics at a young age. She grew up surrounded by pet pigeons in Isfahan, a city in central Iran famed for its pigeon towers. Her favorite bird was completely white. Yet, Samani noticed, this particular pigeon never fathered all-white offspring. She learned that all-white coloring is a recessive genetic trait — one that shows up only when an individual inherits two “broken” copies of a gene. In this case, the pigeon had two broken copies of a gene that makes feather pigment, so his feathers were white. But his offspring had colored feathers because they inherited a normal, pigment-producing version of the gene from their mothers. That early lesson in pigeon heredity stuck with Samani and fueled her desire to learn about genetics. When she moved to the United States to study at the University of Utah in Salt Lake City, she joined Michael Shapiro’s lab to investigate why Columba livia pigeons do backward somersaults. Flying rollers such as Birmingham rollers do tumbling runs in the air. Parlor rollers can’t fly but instead backflip along the ground. Many Persian poems state the pigeon acrobatics signal the birds are happy. The truth, Samani says, is darker. “This is definitely a movement disorder.” Samani is homing in on the genes behind the disorder, which previous work confirmed is a recessive trait. Using two types of statistical genetic analyses, she found five broad swaths of DNA containing hundreds of genes that could be candidates for causing rolling. Samani then measured gene activity in the birds’ brains. Almost 2,000 genes are more or less active in the brains of roller pigeons than in nonrolling birds, she reported March 7 in National Harbor, Md., at the Allied Genetics Conference. Combining all three analyses, she has narrowed the list of candidates to about 300 genes. Samani will soon finish her Ph.D. and hopes to start a teaching career. She’ll miss the pigeons and the mental exercise they gave her, she says. “I have been thinking about this for five years. I have a piece of puzzle here. I have a piece of puzzle there. How can I put them together so that they make sense? Do they actually fit together? That’s the thing I will miss the most,” she says. “I love solving mysteries.” — Tina Hesman Saey.

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We noted that in many Countries there is certainly a great interest in 'performance' breeds that either do endurance high flying , or actual long distance racing. However there is also a keen interest in the Tumbling and rolling breeds. There has been a controversy over the development of "Show Specimens " which are still referred to as Tumblers , Rollers, or Homers when in fact they can no longer perform. The argument for the name usage is based upon the idea that they were bred from those original specimens that did perform, and have retained many of the original breed type traits despite having been "improved" with a Breed type written standard for the showroom pen. The name therefore signifies the origin for each new Breed version even if other foreign Breeds have been introduced to make such changes as to sometimes alter the overall type completely.

Some Show Breeds have retained a few of their original performance tendencies, such as Show Rollers that still exhibit to a small extent their tendencies to do a few backward flips in the loft.

Obviously most of the tumbling and Rolling breeds lend themselves to hawk predation when out flying. This is a major problem when it comes to attracting new enthusiasts to this hobby. People hate to see their favourite birds snatched from the sky by a variety of Hawk species just doing what is natural for them, in hunting , killing and feeding pigeons to their young!

Some people see the performance activities as convulsive abnormalities that are cruel and should not be reproduced, thereby allowing the genes that mutated to cause this in the first place, to die out naturally.

We thought that we should attempt to direct your attention to the aspects of the comfort and well being of the birds first and foremost. Various methods have been adopted to get the birds to perform on demand such as Clapping of the hands near the birds , or shaking the birds in one hand before releasing them on the floor to roll.

Birds that perform in the air outside and above the loft tend to be stimulated into performing by the activity of the birds around them. Flying Rollers for example fly in a closely knit "KIT" and each bird breaks away to do a fast roll downward on a gradual angle, then returns to fly with the rest of the Kit. Several of the birds may roll simultaneously. Tumblers perform a Tumble directly toward the ground before pulling out and up again. The danger with both styles is that some do not pull out and are called 'roll-downs' and will hit the ground or some object like a roof top etc., and die of the impact. I knew of breeders who claimed that they trained in winter to allow the birds to hit into soft snow and thus learn to pull out sooner. More on these Breeds later but first :

**Co-Editor Shoibal Sabbir** presents the following information dealing with flying performance breeds in his Country Bangladesh.

# **Tippler Pigeon (Bangladesh)**

## **History of Bangladesh Pigeon**

**By: Ifthekhar Shajib, Shoibal Sabbir**

### **Tippler Pigeon**

The domestic pigeon breeds are believed to have been developed in the Middle East. As to the origin of the Tippler we are at a loss for accurate data. According to one theory, the Tippler is supposed to have been a cross between the Tumbler and the Cumulate to improve their flying qualities and give them a larger range of flight, that is, they rake more, which keeps them longer on the wing. There is no doubt that it is man-made through selective breeding. The breed is thought to be originated in Congleton and Macclesfield mining town in England, around the year 1845. The aim of the old-time breeders was to perfect a graceful action of the wings, or "Butterfly Action" and it is the ease and grace with which the wings are used that enable the Tippler to attain its marvelous duration of flight.

We modified our pigeon for better result. Every country has different pure and modified breeds. Our tipplers/highflyers come from rock pigeons.

Domestic breeds are believed to have been developed during the Crusades, when the Muslims frequently used courier pigeons. Raising pigeons was a prestigious hobby that had a cachet acquired from the bird's association with the Mogul rulers who had introduced it into the Indian sub-continent. Pigeons we had around 1400 AD were plain tumblers that could fly less hours, later the Mughals' imported thousands of Iranian highfliers and crossed them into their breeds, the result was highfliers that could tumble. The old fanciers enjoyed this hobby. Later a tumbling act was bred out from them.

In the 15th century a few highflyers were brought by "Manshingo", leader of mughole sepoy as a gift for Bangladeshi landlord "Isha-kha" in Shonargaon, Narayanganj. Those were futki and napta sobuj gola breeds that could fly fast and would fly from young. In 1678 again highflyers brought by prince muhammed azam during his 15-month long vice royalty of Bengal. He brought those birds beside buriganga river the southwestern part of Dacca, Bengal. In 1680 he was recalled by his brother mughol emperor Aurangzeb, then his successor shaista khan kept those birds in lalbagkella. In 1688 when shaista khan left Bengal, some of Bengal sepoy kept different breeds of highflyer with them. After that local people modified those birds and made Bangladeshi modified breeds.

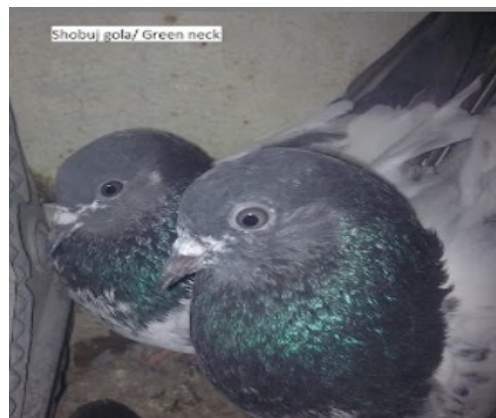
Breeds like banka (nil chokar sobuj gola), tedy(kalo gola), and aliwaly, all decedents of rampuri shahsire. Later in Rampur many breeds were made from this shahsire cross as a result more than 8 types of kalsira(kalogola) were made from the tight colored ones to those which had white dots on the ears, some had flower mark on their beaks.

In the same era, blue bar the hare was also famous. some claim that this color is the actual original bird of our Indian subcontinent, breeds like shajahan puri hare was a bird of peak interest and won

many games, then of course it was moughals who made this breed, also the bird had round shaped medium head small beak, broad chest and blue bar color, they slowly started a flight and as they get older their performance increased.

### **Some local Bangladeshi Tippler breeds (raw/modified)**

**SHOBUJ GOLA/ GREEN NECK:** There is a variety of SHOBUJ GOLA pigeon in Bangladesh. Pigeon masters say SHOBUJ GOLA is one of the RAW materials for modifying TOSS TIPLER PIGEONS. According to many pigeons' master's this breed originated from "JIRA GOLA, SAFCHILA, and BHAGHA". Its beak and nails should be black. Color of the neck is dark green, surrounded from head until belly. Wing feather can be white or black. Tail feather can be black or white. Some masters claim that its tail feather must be black. There are different types of eyes of the SHOBUJ GOLA breed, blackish and bluish indicate rawness.



**SAFCHILA:** Safchila pigeon neck color is blackish green or blackish purple. And it surrounded from head until belly, wings feathers are black. Its beak and nails will be black, legs will be wide and long and leg color will be dark red; most of the time its wing feathers are black. Its back feathers have blackish spots; its tail always will be black. Shobuj gola breeds tail is black because, Safchila pigeon is the breed father of sabuj gola breed. Safchila breed has different types of eyes although yellow, blackish and bluish is from raw breed. This breed is one of the raw materials for modified toss tipplers and most of the Bangladeshi pigeon masters use satchel breed as a breed father of toss tipplers



**BAGHA:** Bagha is a raw breed pigeon. Their necks are blackish olive green. This color will be surrounded from head until belly, its full body color will be gray; its wings and tail feathers are deep blackish gray. its beak and nails are deep gray, its legs have light gray feathers like feather socks; its back feathers have fully gray blackish spot like fish scalp. Bagha breed is also breeding father of Sabuj gola breed. Bagha breed has different types of eyes although black and gray is from raw breed. This breed is one of the raw materials for modified toss tipplers. There are different types of bagha breed pigeon absan (silver) bagha and kala (blackish) bagha is famous for their flying performance.



**JIRAGOLA:** Zira gola is a pure breed pigeon. This bird's body feather color should be full white with little black spots on head and neck area. Most of the time zira gola breed wing feathers are white, but some special breed wings feather will be black. Its tail feather will be black, white or mixed based on bird's blood line. This birds beak and nail color should be black, white or mixed depends on bird's body color.

There are four kinds of eyes in zira gola pure breed, like blackish, bluish, stone white and yellow. Few pigeon masters claim some exceptional zira gola breed have red and orange eyes; those are best for flying and toss. Some pigeon breeders claim red and orange eyes come from cross breed. When blackish and bluish zira gola breed made pair with yellow eyes zira gola bird, then red and orange eyes come in the new generation. The orange and red eyed breed should be consider as a hot-headed bird for toss.





**KHAKI:** Genetically they are “Milky” form from any of three bases color, but locally they are known as KHAKI. Khaki is a raw breed pigeon. Their necks are gray color. This color will be surrounded from head until belly. Its full body color can be gray or white both, its wings and tail feather will be gray color. Its beak and nails will deep blackish gray.

Its eyes are gray, yellow or blackish. Few pigeon masters claim some exceptional Khaki breed have red and orange eyes; those are best for flying and toss. Few pigeon masters claim when pure khaki breed mixed with other breeds (safchila, bagha, and sabuj gola and zira gola) then red and orange eyes come to new generation. Their opinion is “pure khaki breed eyes should be bluish gray or blackish gray like bird’s color. Red and orange eyes come from cross breed. When blackish and bluish Khaki breed made pair with yellow eyes Khaki bird, then red and orange eyes come to new generation” the orange and red eyes new breed should be considered as hot-headed bird for toss although they are very good for flying.

There are different types of khaki breed pigeons. Bagha khaki, dudh khaki, shurma khaki are famous for their flying performance.



**TIPPLER EYE SIGN:** Eye sign on eastern part of the world has whole new level of meaning and values, there are lots of breeds in Asian highfliers and each has a distinct coloring, pattern and layout on its eye making eye-sign an open book to learn what strains there are in the bird, even on cross breeds fanciers are able to diagnose the bloodlines mixed and thus can anticipate the birds nature and abilities which have been proven successful.

Secondly like you know, each layer of eye has different roles, fanciers thus consider different layers on their own, the fact is it all depends on what do you want to do with this bird, do you wish to fly it or breed with it.

Dominance of some pure strain on the bird is a plus point on breeding and this can also be traced out by observing eye sign.

Odd eyes or miss-marks are usually put on flying stock so the genes do not appear again on the next generations, eye-sign is also an index of performance as highfliers are the fliers of extreme height and fly mostly at a level that cannot be seen by human eye thus, the bird should have a very sharp eyesight that enables it to keep track of the home and where it really is, even when the bird is at extreme height.

Eye sign in pigeons refers to observable characteristics of a bird's eyes. Breeders use eye sign as an indication of quality in pigeons when selecting for breeding. However, eye sign is controversial. Some swear by it while others call it superstition. Regardless, it remains an important subject for pigeon fanciers to understand.

Although the toss tippler return probability depends on blood, there is some eye sign also.

1- Examine the bird's pupils. The pupil should be totally black, and either round or slightly oval. There should be no milkiness over the pupil.

2- Identify the ring just around the pupil, which is muscle that contracts the pupil. It is called the Circle of Adaptation, and it can vary considerably in width from bird to bird. A wide Circle of Adaptation is desirable. The color of this region should be green or greenish black.

3- Locate the next ring out, called the Circle of Correlation. It is made up of connective tissue that attaches the muscle around the pupil to the iris. This ring can appear in many colors, but the favorites for breeders are violet and white. These birds are thought to make the best breeding stock.

4- Look at the iris, which is the next ring out. The function of the iris is to protect the retina from over exposure to light, which it does by virtue of its dark pigment. Thus, the iris should show a lot of depth and a richness of color.

5- Find the next ring out from the iris, which is called the Circle of Health. This ring is believed to be important in the blood supply to the eye, and as such is an indicator of overall condition. It should show a dark, rich color.

Eyes are an important part of birds/animals. It's a very difficult & important part, but in my point of view Pigeon Eye knowledge for pigeon fanciers is the most important.

Eyes are the mother of the map to indication of quality in the pigeons known blood line, & intelligence.

## Breeding and Toss Tipplers Eyes:

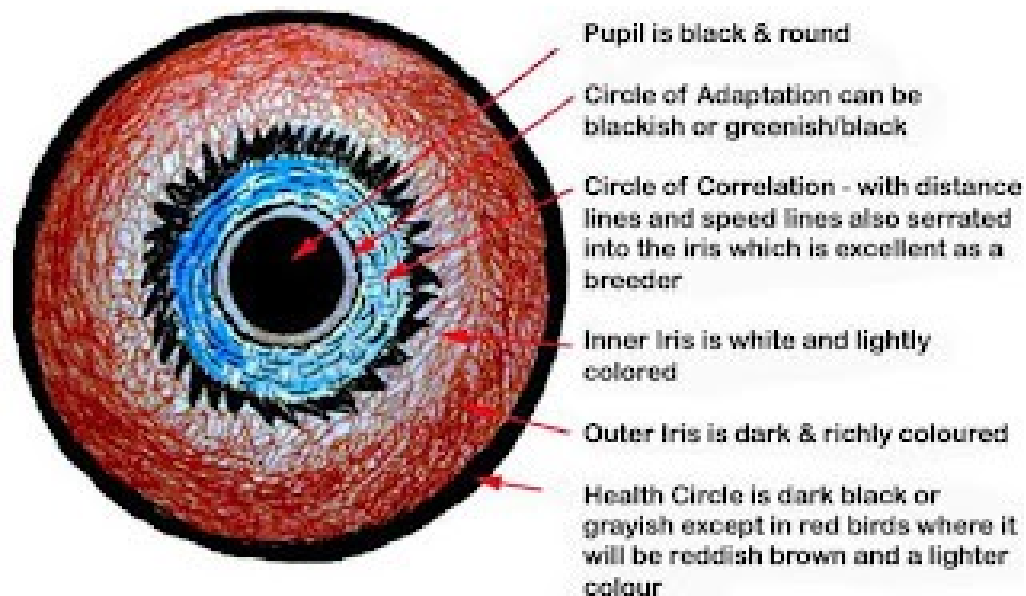
For toss tipplers breeding pigeon eye sign and toss pigeon eye sign is a little different because toss tippler is a modified breed not pure breed,so we should choose breeding eyes for making pair up.

1)toss tippler eye sign for breeding.

2)toss tipplers eye sign for toss.



## Dominant Violet Eyesign

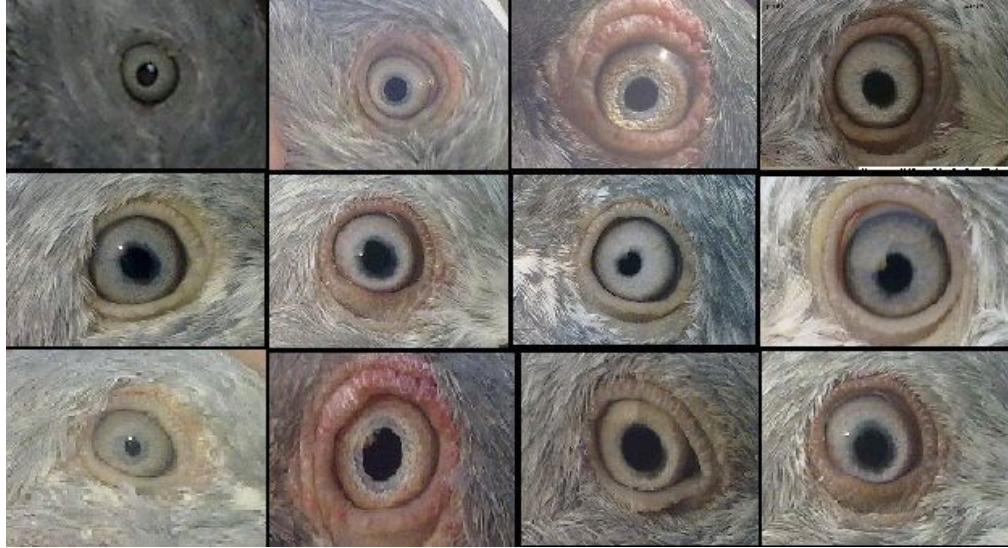


This eye is a "SUPER BREEDER, no matter what color it is.

Myron S Kulik



**Here are some more desirable modified tippler eyes:**



#### **TOSS Tipplers:**

**What is "Toss":** Tossing is a way of training. Winter is the best time to increase pigeons flying performance. All pigeon masters breed new generations of pigeon and train them. From those birds the owner selects some special birds comparing their abilities. Then he takes those selected birds away from home and release them from a calculated distance, to see that how many pigeons comes back. This whole process is called "TOSSING". Every winter pigeon masters toss pigeons to expand their flying range.

**A small video link of tossing tippler pigeons :** <https://www.youtube.com/watch?v=y9AmuL4kTzo> ; [https://www.youtube.com/results?search\\_query=kobutar+er+palla](https://www.youtube.com/results?search_query=kobutar+er+palla)

#### **Why toss your Pigeon?**

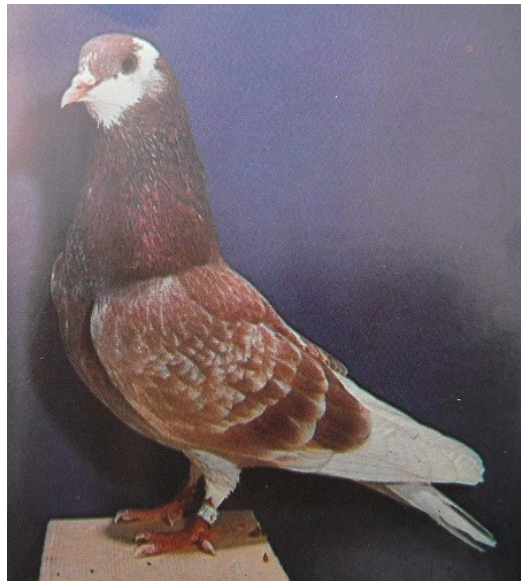
Now in Bangladesh "Tossing Tippler" is the most purple game for Pigeon masters. All pigeon masters breed new generations of pigeons. They breed different types of pigeons to increase their pigeons flying range, adaptability and lots of other things. Every year in winter pigeon masters race their birds with each other to find out who has the best bird. The race can be held between two persons or more.

**Special thanks** for this and Shoibal will present some other info from Bangladesh in future issues.

Now let's take a look at some of the performance BREEDS , keeping in mind that COLOUR is entirely different. Each Breed may be kept in any one of the base colour pigments and Patterns whether or not a grizzle gene is present. ( All Photos from Levi's Encyclopedia of Pigeon Breeds.)

The Racing Homer : This Breed has numerous Breeds in its ancestry but has been bred 'pure' for centuries but numerous "STRAINS" within the Breed have been developed such as the famous 'Meulemans'. However off-shoot Breeds have been developed from the original Racer gene-pool to create many Homer/Racer Breeds that are no longer flown at all. The constant battle with Hawks probably has been the main reason originally but also just the idea that breeders came to love certain physical aspects and decided to select for those traits. The true Racing Homer was traditionally bred in more or less "Wild Type" colours and Patterns , but in recent years the more unique colour mutations have become popular and are proving themselves in the Race competitions.

The Roller : This usually refers to the Birmingham Roller and again there are numerous Strains within the Breed and one famous strain from England was the 'Pensom' Roller that was brought to North America . Despite emphatic claims that it is always kept pure , there are show specimens that have no resemblance to the original flying performance strain. The Roller may have originated from the Tumbler Breed prior to 1735 , so it has a very old ancestry. Like the Racer , the Roller Breed was used to create many other 'Roller' Show Breeds such as the American Roller , the American Show Baldhead Roller ., the American Show Roller ., the Canadian Show Roller etc.



Back in 1946 the Lotan or Lowtan Breed was imported from India but it did not continue as a Breed due to being two hens and while a cross with a Parlor Roller did produce birds that performed like the parlor Roller, it was not continued. The Parlor Roller is still Bred both as a performance bird and a show coop specimen. I have had an opportunity to judge them but was concerned as I personally see this as cruel. The birds were gasping and disoriented at the end of the Roll and I strongly advised that if they were

going to continue doing these competitions that they use a soft carpet base as the birds get dirt in their mouths and eyes doing this as they have no control at all over what they are doing. Shoibal will have more on that Breed I believe later on.

Parlor Tumblers / Parlor Roller : This Breed does backward flips close to the floor and are stimulated to do so by any sudden movement or noise around them thus the clapping of the owners hands over them will get an immediate response. It seems not as cruel and the birds seem to have a bit more control. They spend most of their time on the floor as flying up to perches etc., is basically not possible. It originated in Scotland and/or The U.S.A. prior to 1850.

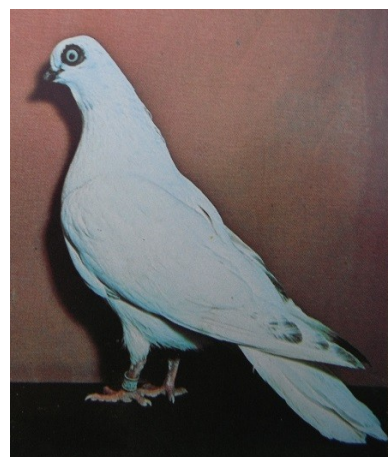


There is a large list of Tumbler Breeds most of which were at one time performance flying Breeds but are mainly show Breeds nowadays. Most do not resemble one another at all in Type.

The Danish Tumbler of Denmark -

and

- The Budapest Storcked Tumbler.





Budapest Muffed Tumbler-

and

- The Regensburg Tumbler of Southern Germany.



The fish eye Roller of Spain.



Light and Medium Print Grizzle Tipplers

