

The Pigeon Genetics Newsletter

News, Views, and Comments.

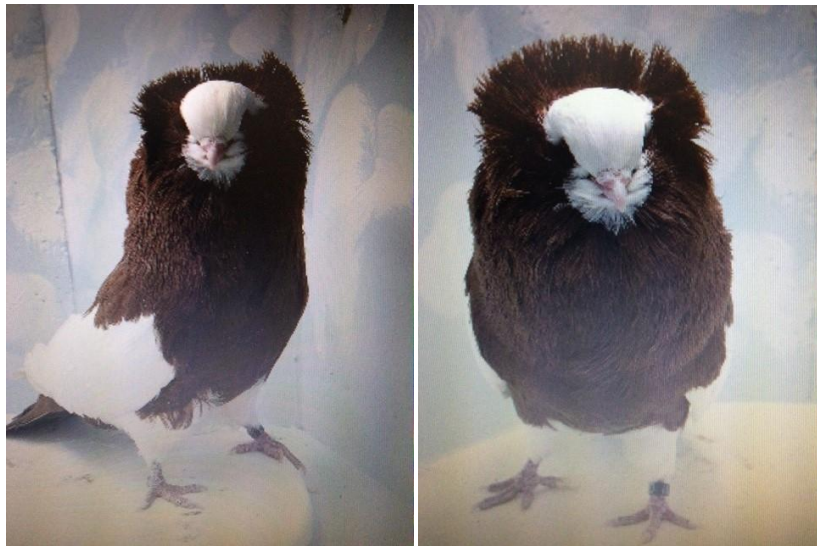
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Our main topic this Month is not COLOUR ., but rather , another genetic trait that many of us have worked with in a wide variety of Breeds , that is "SHELL CREST" . It is one of the many Feather ornament anomalies that has come about through mutation over the many years of Breeding Domesticated Pigeons.

Frank Seip writes :

Hello Bob, as always I really look forward to and enjoy these bulletins, I no longer keep pigeons but stay involved judging. I sent a few pictures for your files. The "black splash Chinese owl" was the first I've seen or raised and thought it may be of interest. The komorner pictures were sent as their wealthy mane and crest were not ideal for show as feather quality was extremely soft , Just thought these may be of interest. Best regards Frank Seip



There are other forms of reversed feather anomalies such as Peak crests , cravats , hoods , manes , Chains , rosettes, Roses , pantaloons , Cushions etc.

The Shell Crest may be no larger than your Thumb nail in width , to a full half circle surrounding the back of the head from ear to ear.

Scientists at the University of Utah revealed that a single mutation in a gene named *EphB2* causes head and neck feathers to grow upward instead of downward, creating what we in the hobby call crests.

The scientists also showed that while the head crest trait becomes apparent in juvenile pigeons as they feather out, the mutant gene affects pigeon embryos at a molecular level , by reversing the direction of feather buds from which feathers later grow .

Tests have revealed that the Crests in pigeons are controlled by not only the same gene , but by modifiers associated with this gene, causing the slight variations as we see in the very structure of these crests demonstrated throughout this Newsletter.

Shell Crest is recessive to wild type (plain head) . It is however Dominant over Peak crest . Beyond those two distinctly named types of crest ., we will see variations that may not actually be individual mutations but simply variations caused by selection over time. It is presently still expected that modifier genes also play a role in the variations . This point was stated by Dr. Lester Paul Gibson 25 or more years ago.

Many shell Crested Show Breeds have had dramatic improvements over the years , mainly due to outcrosses to better crested varieties , but also enhanced through selection toward the newly introduced quality .

Some of the Shell Crested Breeds are : Nuns , Komorner Tumblers, Giant House Pigeons , Crested Helmets , The Trumpeter Family ., a few Pouter Breeds ., Crested Frill Backs and Crested Swallow Varieties. One of the most dramatically improved is the Komorner Tumbler.



Breed type has also improved immensely over the past 60 plus years. Above are photos from Wendell Levi's Encyclopedia of Pigeon Breeds . Three distinctly different shell crests adorn these birds .



Above is a cross by Qaffi's Lofts in India of an Indian Fantail and a Jacobin , you can see that both the head pied markings and the Large shell crest could certainly be used to increase the size of the shell on a Komorner Tumbler.

However no matter how you approach these improvements , SELECTION is the key to success. That means that no matter how good the bird may be in some other traits such as a unique colour , IF it does not show the desired trait you are trying to improve , then you must not use it in the Breeding program. You not only must Select the good you bring in ., but you must select for the bad that you must remove .

The inheritance of the head ornaments has been studied with the following observations recorded : Crests come in a variety of sizes and shapes and have been given the prefix (cr) to denote a recessive trait to wild type plain head. The larger ones that tend to wrap around the back of the skull are called "SHELL" crests , and the ones that tend to form a Point at the center back of the head are called Peak Crests. Shell crest is dominant over Peak. My first cross of an English Trumpeter with a Peak crested Indian Fantail , produced all full shell crested young. In Europe this type has been symbolized as (ru). Those mated back to a Peak crest produced what is generally referred to as a thumb - nail crest . This is a small thick crest that is about the size of one's thumb and does not form a tight needle point peak. Below is a Shell crest of a Champion English Trumpeter in Australia bred by Alan Watts , photographed by James Mandilas , and posted by Michael Spadoni on his Facebook Group Australian National Pigeon Assoc. Inc. . Note the sideboards that keep the nasal tuft raised and curved forward.



The Main feathers of a full shell crest do not seem to react much to the emotions of each bird with the exception of the feathers down the back of the neck and to some extent the supporting cushion. However the Peak crest reacts more readily and tightens to a very neat point when the bird is at

attention. Below is a Needle point peak crest on an Archangel and an Indian Fantail. First photo provided by Mick Bassett The second by Garry Glissmeyer from Lynn Krall.



The Capuchine and Jacobin both have a shell crest which has been enhanced through selection over many years for longer and longer feather and to the point where the Mane at the back of the neck radiates from a central "rose" to form the back half of the globe- shape head ornament in the Jacobin and the Chain at the front of the neck is created by the side neck feathers radiating forward . As you saw with the Bird presented by Qafi ., all of this excess feathering is recessive and only the Shell crest inherits when mated to a Peak crested bird.

Yellow Jacobin , Clint Robertson.



Old style Dutch Capuchine, Bob Rodgers .



However the Jacobin and Capuchine seem to have a partial Dominant Crest modifier as it can produce crested young when mated to birds that have not ever produced crested young previously. The unique feature is that the Crests are one sided only , as if combed from one side of the back of the head over toward the other. The Lenardo and the Lotan both were developed from such crosses and featured the unilateral crests . I crossed Capuchines with Rollers and Modenas . I got the one sided crests from the Rollers , but from the Modena I got loose thumb crests . There was a possibility that the Modena had a peak crest in its ancestry as they were used to create the Miniature American Crest Breed many years ago. We often forget that recessive genes can be carried hidden for generations .



The Lenardo Pigeon. (Levi)



The Indian Lotna Khabuter (Rolling Pigeon). (Levi)



Capuchine X Modena Cross . Bob R.

The Chinese Owl has yet another group of feather anomalies , There is a very short reversed feather cravat on either side of the neck under each eye , not touching at the back of the neck. In front they unite under the beak at the throat. The breast cushion is split into two halves with the entire breast region covered in reverse feathers. The bottom half is somewhat normal but is met by two round puffs of reversed feathers called Pantaloons , just in front of the legs . Painting Bob Rodgers



This Breed and the Spanish Chorrera or Spanish Frill , are almost identical in type and feather anomalies except that the Chorrera originally had a few reversed curled feathers in the area of the secondary flights on the bird's back. These have been redeveloped in recent years to form two Rosettes at the top of each shoulder . The same trait has been developed in other bird species such as the budgie .



Photo above that Frank Seip referred to earlier . Black Chorrera Melbourne Pigeon Assoc. Inc.

Crosses with Chinese Owls and Show Rollers by Ryan Ward produced peak crested Lucene Look-a-likes . This would indicate that the Roller must have carried the peak crest gene.

You may recall that in Wendell Levi's Book The Pigeon , he showed photos of the result of crosses between a Black Nun and a Blue check Chinese Owl. In that case all ornaments were extinguished to produce plain feathered wild type Feral look-a -likes .



Photo by Amitav Ghosh showing the circular development of the Shell crest as well as the second crest that covers the top of the head including the eyes and beak of a Bokhara Trumpeter.



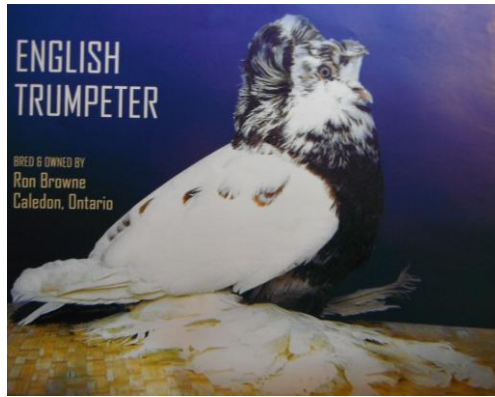
While it is not clearly visible, this photo by Jerry Sindelar shows a Shell Crest that has small rosettes just behind each ear which is required in some breeds .



Here the shell crest is small and set lower on the back of the neck with a supporting mane . Photo supplied by Mick Bassett.



Jacobin Clint Robertson Canada ,



English Trumpeter Ron Brown Canada

(From the CPFA Calendar 2000) .

Below Darrell Sebastian's Komorner Tumbler.



Above : North American Type Khomorner sixteen years ago.



European Type photo by Mick Bassett.

We have heard from some of you stating that you are doing various tests on the structural and ornamental traits of pigeons and that you plan to share some of that with us . We have touched briefly on the topic of crests this Month , but look forward to more individual experiences . Look forward to hearing from all of you !

We will return in three Months in December with the next Issue ., so lots of time to get involved . That is it from the Pigeon Loft for September , Take care . See you in December !

More photos supplied by Mick Bassett Formerly England , now living in Germany .





Finally a group of North American Type Komorner Tumblers bred and owned by Guido Madrusan of Ontario Canada.

