



## WHITE-FEATHERED DOMESTICATED FANCY PIGEONS OF BANGLADESH

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### ABSTRACT

In Bangladesh a lot of fancy pigeons but only 13 breeds exhibit white in colour. This phenomenon could not separate total albinism, complete albinism, partial albinism and leucism. People know or consider only white feathered pigeons is albino. Secondly they choice the eye colour is white or not. Most of the white pigeons have white feathers with black eyes which is called recessive white. Black eyes with iris and pupil also have melanin so it looks darker. White pigeons are most recognized in Bangladesh and the rearers not mix with others. So its generation either parents and squabs are again reproduced white. The future of white fancy pigeons of Bangladesh is good than others and this is of course a running item.

**Keywords:** Albinism; Melanism; Birds

## INTRODUCTION

Albino *al*, is a simple recessive mutation. Albino Old Dutch Tumbler will have muffs; an albino Bokhara Trumpeter will have its shell, beak rose and muffs; an albino Carrier will still have its walnut-shaped wattle, etc. The albino mutation interferes with the production of melanin, none is produced anywhere in the body. Mutation interferes with production of the enzyme tyrosinase, a melanin precursor. More melanin absorbs more light and the eye appears darker. Less absorbs less light and we see a lighter eye -- gray or blue. Since there is no melanin produced those feathers, they are always white. Pigeons don't have those pigments in their feathers, however some fruit pigeons do. Albino is epistatic to all other color mutations in the pigeon. True albino pigeon it has no body pigments but eye is pink and the pink being caused by light striking the blood vessel and reflecting. Recessive white birds have blue or dark colored eyes. Albinism in 116 species of wild birds has been found by Ruthven Deane in 1876, 1879 and 1880. In nature albino grebe was common (Weller 1959). Sage in 1962 mentioned the causes of albino and he also clarified that all time albino not depends on mutation. Albino happens mainly the absence of colour pigment and enzyme tyrosinase (Ross 1957). Due to presence of cyst in grackle Phillips in 1954 dissected the head for observing the causes of the white feather on the head. In case of 44 species of robins 5(11) % were albino (Ross 1957). All are depends on presence or absence of pigments in feather, skin and iris (Pettingill 1956). More albinism was found in waterfowl, gamebird, blackbird and finches. Sometimes house sparrow and crows was albino. Swallow and turkey were pure white; grebe in incomplete albino; cormorant partial albino; heron, bittern and grouse partial albino. In common crow out of 31 species 6 were total and 25 partial albinos. Yellow wagtail also showed albinism and shrikes were pure white (Ross 1957). For observing the pigments in birds' skin during taxidermy this is important. In birds the basic colour pigments are melanin and carotene. Colour aberration depends mostly on food. After discovery of basic knowledge of biochemistry of melanins in half of the 20th century (Frank 1939; Mason 1953; Rawles 1953; Lubnow 1963). Albinism is defined as a lack of melanins of both in feather, eye and skin as a result of an inherited absence of tyrosinase enzyme (Fox and Vevers 1960). Albino happens by the activation of autosomal recessive gene (van Grouw 2006). Albinistic animals have been studied since Carolus Linnaeus in the mid 1700s. Still, albinos seem to live normal life spans. They could easily make great pets as tumbler, roller, homer etc. roller, homer, tippler etc. But naturally white birds like swan, goose and egret are not albino.

## MATERIALS AND METHODS

**Observation areas:** For observing the white pigeons the places were Dhaka Kataban, Dinajpur, Saidpur, Rangpur, Rajshai and Kushtia. Reared some white pigeons in my own lofts were tumbler, lotan, capuchine and fantail were two pair each. Most of the rearers kept their white pigeons and not mixed it with other breeds because white color of any pigeons is most accepted by people. White parent normally produce white squabs. During collecting the birds' history of white parents were found by them. All photographs were collected from bikroy.com Bangladesh with excellent styles of the pigeons. From the birth to last moulting were the

observed points to clarify the explanation of the albinism. Iris, skin and feather colour considered as what type of albino of those 13 pigeons (Plate 1-13; Table 1).

**Observing stages:** For the identification the pigments of the squab after hatch it was the best for seeing the pigments. Normally white skin produces white feathers later whereas coloured pigments especially red, brown and black pigments feathers are different in colours. At the time of moulting the first primary feathers are replaced by new feathers which were completely white.



**Plate 1: Tumbler**



**Plate 2: Lotan**



**Plate 3: Fantail**



**Plate 4: Frillback**



**Plate 5: Capuchine**



**Plate 6: Bokhara Trumpeter**



**Plate 7: Cropper**



**Plate 8: King**



**Plate 9: Lahore**



**Plate 10: Homer**



**Plate 11: Runt**



**Plate 12: Mondaine**



**Plate 13: Maltese**

Pigeons	Beak	Eye cere	Pupil and Iris (External)	Feather	Tarsus and Toes	Claw
Tumbler	orange	orange	black	white	red	white
Lotan	orange	orange	black	white	red	white
Fantail	orange	orange	black	white	red	white
Frillback	orange	orange	black	white	red	white
Capuchine	orange	orange	black	white	red	white
Bokhara Trumpeter	orange	orange	black	white	red	white
Cropper	orange	orange	black	white	red	white
King	orange	orange	black	white	red	white
Lahore	orange	orange	black	white	red	white
Homer	orange	orange	black	white	red	white
Runt	orange	orange	black	white	red	white
Mondaine	orange	orange	black	white	red	white
Maltese	orange	orange	black	white	red	white

**Table 1:** 13 Recessive white (white feather and black eye) fancy pigeons of Bangladesh

## RESULTS

**Albinism in pigeons:** After observation for a long time 13 type of white fancy pigeons were found. It was not possible to recognize the background of the iris. So the iris looks black and on this my result is mostly incomplete albinism (Plate 1-13; Table 1). For specifying accurate total albinism need to anatomical research on it. This result is basis only phenotype or how common people choice the white coloured pigeons. Only white feathered pigeons are the white pigeon of Bangladesh which is a very common tendency of the people. In duck family showed huge albino forms within the birds group. Pure white pigeons guillemot with very light bill and feet were in wild. In mourning dove first tan then spotted and in passenger pigeon mottled and finally albino was found. Near albino or complete white cape pigeon (*Daption capense*) could recruit to the breeding population or whether it is destined to remain a non breeder for the rest of its life (Thompson et al 2000; Oliver 1955). Birds with the leucism still have dark eyes. Reason is that the pigments in the back of the eyeball remain present the therefore the eyes look dark. Albino causes for mutation, diet, living conditions, age, disease or injury. When pigments are absent in skin and eye this is called complete albinism (Sandoval-Castillo et al 2006). Partial albinism is reduced pigment from skin, feather and eye (Bendeen and Otis 2011) and this phenomenon is broken down into incomplete and imperfect (Hehl 1985; Berdeen and Otis 2011). Leucism or leukism is a form of partial albinism characterized by retention of the colour in the eyes bill and

legs but the skin or plumage contains no colour pigment (Forrest and Naveen 2000).

**Problems for albinism:** For white feathered of the fancy pigeons they are always caught by the predators like cat, dog, crow, mongoose, monitor lizard and jackal. Due to fair looking huge rearing of white pigeons its over population may boring and ultimately it losses its dignity. White pigeons look nice to that theft occurred.

### **Causes of white feather:**

**Genetical:** Changes within the genes this albinism happened. This albinism happened by the presence of multiple genes. In Bangladesh most of the white pigeons are recessive white (white feather with black eyes) and in Eurasian collared dove (*Streptopelia decaocto*) dominant white (white feather with red or pink eyes) found.

**Diet:** Tyrosine added foods are chicken, turkey, fish, milk, yogurt, cheese, peanut, almond, pumpkin seeds, sesame seed, soy products, banana produces more tyrosine and ultimately melanin formed and the animals become black and vitamin A, lycopene and green tea prevents albinism of the animals. By lacking that tyrosine contained food in pigeon more albinos found.

**Living conditions:** Hot environment produces more melanin from the metabolism of tyrosine. So if you reared pigeons in a cool place there found white-feathered pigeons.

**Age:** When pigeons got aged the melanin destroys and albino formed.

**Injury:** Any injury or shock melanin losses so white come.

**Disease:** Any diseases or for applying medicines on pigeons albino happened.

## **DISCUSSION**

Basically albinos are four types- total albinism, complete albinism, partial albinism and leucism. When skin, feather and iris is white this is total albino; when skin, feather is white, eye black and leg pale or white this is complete albinism. Partial albinism is of two types, incomplete and imperfect. In case of incomplete among skin, feather and iris any one or two is white and when skin, feather and iris or in any is whitish this is imperfect. Leucism is a form of partial albinism when beak, eye and leg are whitish but skin and feather is white. This is reduction in all types of skin pigment, not just melanin. Albinism happens by colour mutation and whitish aberrations are called partial albinism (van Grouw 1997, 2000ab). Mccardle in 2012 mentioned three types of albinism are - true, partial and leucistic. Lack of pigment in skin, hair, feather, scale, eyes was common (Hiler 1983). Normally the partial albinism does not exit (Ogilvie 2001). It is simply impossible, just like being partial pregnant (van Grouw 2006).

## **CONCLUSION**

Why most of the people like white pigeons? It's tough question. White is the combination of all colours. It produces all colours and all colours are show bright on this colour. Any partialities of the colour are snatched on this colour. All whites are recessive so that squab is completely white. Observed data suggested

sometime capuchine produce slight yellow or red contour feathers on the body and tumbler with variable colours. People normally choice those fancy pigeons only on white feather. They are not tried to know the pedigree of such pigeons. They can't maintain the purity of those breeds due to lack of knowledge. Australian Red which is called Parvin in Bangladesh has come into white; its crossing pattern is unknown. Same condition has arisen in white Lahore.

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