**The Crested Budgerigar -**Ghalib Al-Nasser
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*Budgerigar fanciers have heard about, or seen, the Crested variety and a few have appreciated their merits by taking up the challenge of breeding them. My aim is to give some background about this variety.*

Origin

The Crested Budgerigar is neither a recent mutation, an abnormal feather growth nor in any way related to "featherdusters". However, it is a naturally occurring mutation which owes nothing to man for its appearance, except for its development. This mutation causes the feathers, in certain limited areas of the bird's body, to change the direction of their growth, causing feather disturbances.

The earliest recorded occurrence of a Crested mutation was in Sydney, Australia in about 1920. From this bird, presumably, the Australian strain Crests was bred. As there was no control over their export at that time, it is a possibility that some Crested birds were brought to other countries. But we in the CBC, believe that the Crested variety has a multiorigin as with certain other Budgerigar varieties (e.g., Yellow Face and Opaline). Records tell us that other Crested mutants appeared on the European continent just prior to the second World War. From these, the Crested variety probably spread throughout Europe in the short period prior to the war.

There are records of another Crested mutant occurring in Canada about 1948. The Crests in the United States are descended from this bird, although the route taken was not the obvious one. Crested birds were smuggled into the US from Mexico. These Crests, which came from this country, were descendants from Crests imported from Canada in the early fifties. This is a good example of a variety's ability to spread all over the world in a short space of time.

Examples of the Crest were first imported into this country in 1938 by Mrs R Brown of Morecambe, Lancs, from an Australian strain. They were breeding freely by 1938.

We, in the United Kingdom, generally identify the above mutations as the "Continental" strain and the "American" strain. The breeding pattern for both strains is exactly the same, they differ only in the position of centre (or locus) of the Crest. The Continental Strain has the centre of the crest just above the cere, resulting in a strong splay of feathers which bend over the head down to eye level. The American strain has the centre of the Crest slightly further back on the head, resulting in the feathers standing more or less upright with a splay only at the ends, if at all. But over the years, these two strains have become intermingled and now either strain can produce the other.

Type of Crest

There are three types of Crest: tufted, half circular and full circular. The CBC has devised a standard and pictorial ideal for each, which has been approved and recognised by the Budgerigar Society. But in a feather mutation like this, the countless variations of the feather disturbance and the amount of uplift prevents the CBC from applying its standards too rigidly. The standards, however, do provide a guide to breeders and judges. The main judging criterion, as far as the Crest is concerned, is the neatness of the Crest rather than its shape. The tufted (or Cockatiel) type of Crest is the most common and it varies from a mild disturbance on the head to a strong tuft. However, there should always be an upright crest of feathers,. up to three eighths of an inch high, rising just above the cere. The next most common Crest is the half circular type. This Crest type should be a half circle of feathers falling or rising in a fringe above the cere. The feathers at the back of the head should be quite flat. The full circular type of Crest goes all around the head and should be a flat round crest with the feathers radiating from the centre of the head. This type is the most aesthetic and the most in demand with fanciers.

The variations in each type of Crest are endless. A shift of the locus of the crest slightly to one side of the head will give a crest a lopsided appearance. However, this will not alter their breeding pattern at all. There are even some birds with double crests, which have a very untidy appearance. These birds have one crest out in front with the other feather disturbance immediately behind. Another type of Crest that occurs now and then is the "Frilled" type. Birds of this type have a feather disturbance not only on the front of the head and along the back of the skull but also between their wings. "Crest bred" birds are the non crested progeny from Crest matings and are indistinguishable from ordinary Budgerigars. However, Crest bred birds are of considerable value for Crest production when mated with Crested partners. Thus, it is important to keep a record of their identity.

Crest Genetics

Crest genetics are not at all straight forward, and it is not possible to classify the Crest gene as dominant recessive or sex-linked. The Crest gene cannot be fully dominant (as are the Grey or Dominant Pied), because when a Crest is paired with a Crest bred, the expectation of crested progeny will be more than that of when a Crest is paired to a pure normal (i.e., a bird with no Crest background). In fact, even a Crest bred paired to a normal can produce crested progeny. On the other hand, the Crest gene cannot be fully recessive because crested progeny can be produced from a first cross between a Crest and a pure normal. This is why we in the CBC, do not refer to non crested progeny as "splits" but always as 'Crest breds'. There is no correspondence between the "Crest bred" and the "split" birds of say, Recessive Pieds or sex linked Opalines. Also we have found that the laws governing the sex linkage theory do not help in explaining Crest genetics, as there is no difference between the genetic potential of cocks and that of hens.

The "Initiator" Theory

In fact, after having bred this variety since 1971, I have come to the conclusion (in agreement with the few true geneticists in the fancy) that the Crest gene behaves as semi dominant to the wild type.

Many theories have been put forward over the years regarding Crest genetics, but the one that the CBC has adopted is the "Initiator Theory". This theory put forward in June 1970 by Dr J E Fox of Kansas University, USA, superseded his earlier theory the "Inhibitor Theory" which he published in Cage and Aviary Birds on May 28 1964. The "Initiator Theory" stated that the formation of a Crest depended upon the complimentary action of the two types of semi dominant genes; a Crest initiating gene and the Crest determining gene. When these are both present as a single factor, the Crest is tufted; when there is one inhibitor and two determiners, the Crest is half circular, when there are two inhibitors and either one or two determiners, the Crest is full circular. The theory further states that when there is only one semi dominant gene present without the other, then there is no visual crest and the bird is a Crest bred (which is different from the pure normals which have no Crested genes).

Breeding with Crests

Even if the "Initiator Theory" is accepted, there still remains a certain amount in the breeding pattern of Crests to be explained. One thing of which we are certain, is that Crests as a variety, are true breeding as far as the passing on of the visual Crest character is concerned, although the Crest type when bred with a Crest bred can produce any other types of Crest. That is, a Tuft paired to a Crest bred can produce all three types of Crests; a circular Crest paired to a Crest bred can also produce all three types of Crests and so can a circular Crest paired to a Crest bred. The main factor is the parentage of the Crest bred.

For convenience, I shall use the term "Crest' as referring to any type of Crest, regardless of the sex, in explaining the breeding pattern of this variety.

Crest x Crest matings will produce the highest proportion of Crested progeny plus some Crest breds. However, I feel that there are no advantages to be gained in such pairings as almost invariably they will produce Crests of poor quality and little substance.

Crest x Crest bred matings will produce the next highest proportion Crested progeny plus Crest breds and pure normals (with no Crest background). This is in fact the type of pairing that is most recommended for the maintenance of size and type. It is important that when using this pairing, the Crestbred should come from a pairing in which as least one parent was visually Crested.

Crest x normal matings will produce a few Crests but mostly Crest breds and normals. However, this is the sort of pairing one has to make now and then to improve the size and quality of the Crests and Crest breds. The normal parent used, however, needs to be of outstanding size and type.

Crest bred x Crest bred and Crest bred x normal matings have been known to produce the occasional Crested bird. (This proves that the Crest gene is more than merely dominant in character). However, this is not a recommended mating for Crest production, unless one is breeding for the pet market, as a lot of "wastage" is produced.

A Crested chick in the nest can be distinguished from a non Crested chick as early as 12 days from its birth by the twisted looking stubble on its head. However, it may not be until the chick is three weeks old that one can distinguish the type of Crest.

In conclusion, I do hope that I have succeeded in passing on some information about the Crested variety and whetted fanciers' appetites. Indeed the variety offers a challenge in breeding for colour as well as for crest.