

Dilution of Shelling in the Shell Parrot

by Robert G. Travnicek, M.D.

Mutation occurs in all living things at a predetermined rate. Darwin's Law of Natural Selection holds that mutations occurring naturally in the wild state are incorporated by virtue of the positive effect of the new characteristics with respect to the species struggle to maintain itself in its environment.

Periodically, traits appear in any breed of animal which are not flattering to the animal. Specimens with these characteristics are rejected by the breeder as unacceptable. These individual specimens are quickly weeded out of the stud, thus the breed does not suffer. This is an everyday occurrence in all breeds.

From time to time a characteristic may appear in a single strain or specimen which is subtle and quite possibly a minor flaw in what is otherwise an outstanding specimen. This specimen may achieve wide acclaim because the flaw has not been banned from exhibition specimens, and thus be sought as an outcross by many breeders. This minor flaw which can magnify into an undesirable trait, is either not recognized by the purchaser or not visibly present in the stock he has purchased. Before long this characteristic could be imbedded to one extent or another in every strain in the country.

Historically speaking, in the U.S.A., eye problems in the Chow-Chow dog breed came from one or more imported dogs in the early 1960s, to which most major winning Chow-Chows today trace their pedigrees. Closer to home, in budgerigars, head flecking should ultimately be traceable to a winning strain of birds by those who were present when it first occurred as a mutation.

Long flighted birds should not be seen in the same light as the danger of this mutation was recognized immediately by

those in leadership positions in the fancy, and banned from the show bench. As a result it is near extinction today.

Unfortunately, the difference between an obviously dangerous mutation and an otherwise normally constituted bird has allowed the flecked headed budgerigar to scourge most strains in the States and perhaps in the world of exhibition budgerigars.

Concomitant to the problem of flecked heads (addressed obliquely by societies in most countries) is a potentially more devastating problem which has come to light in the past 10 years and has until now, not received the wide attention and notoriety it is due.

The standard for exhibition budgerigars in the U.S.A and England clearly states under the category of markings in the color standard for light green "markings on cheeks, back of head, neck, and wings, black and well-defined on a buttercup ground". This would of course carry over to all normally colored birds in the green series. Thus the importance of shelling to the breed itself is recognized by those empowered to establish standards of quality.

This may relate to the bird in the wild variously called shell parrot, zebra parakeet, undulated parrot, scallop parrot, etc., all referring to the black shelling on the buttercup background in green, and black on white background on the blue series birds.

It should therefore come as a shock that a severe abnormality in shelling and interposed ground color is present in many strains and outstanding individual specimens on the bench today. This problem if not addressed by the various judge's panels and societies dedicated to the preservation and advancement of the budgerigar around the world, may

become so ingrained that no amount of ingenious breeding can eliminate it.

Description of this trait of abnormal melanin deposition and dilution in shelling and ground color is best described in two definite divisions.

1.) **Sheening:** This is defined as the deposition of body color in otherwise normal yellow and white spaces between the shells on the head, neck, and wings. Practically speaking, it is seen on the back of the heads of a fair percentage of show birds, certainly in the U.S.A., and to some extent in shows in England. This trait causes an opalescence coloration to occur on the backskull area. Often in the most severely affected specimen it appears on the mantle and wings. In some birds only occasional individual feathers are involved or small areas directly on the top or backskull area making this trait quite insidious. A careful examination of one's own specimens with this in mind will bring these specimens to light if they exist.

2.) **Dilution of shelling:** defined as abnormal melanin dilution, is the serious dilution in both intensity and definition of shelling around the neck and head. This is possibly related to, but not inevitably occurring with the trait of sheening. The dilute shelling has been seen in an alarming number of show specimens being exhibited; some of these specimens are being awarded prizes in the bench today.

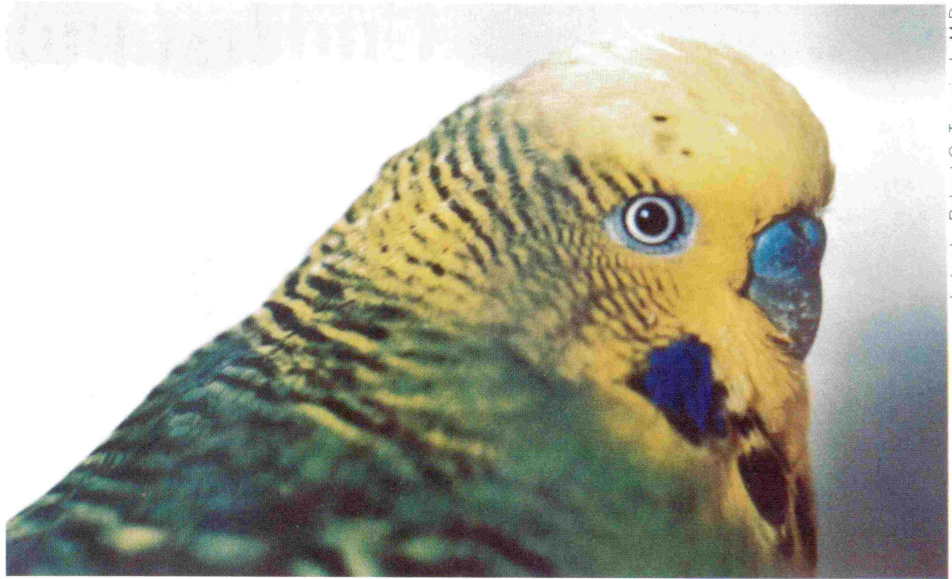
The traits of sheening and dilution of shelling (D.O.S.) have not been addressed by edicts similar to those which met the long-flight. Therefore, variation in judging standards and opinions allow these problems to be ever more deeply imbedded in and disseminated by the various strains in which they occur.

In discussions with fanciers within the U.S.A. and abroad, who are conscious of

this problem, it is a consensus that the dilution of shelling is an effect that might possibly take 2 – 4 years to develop in an individual specimen making this trait difficult if not impossible to eradicate from the fancy.

It has, in fact, developed in specimens shown quite successfully in the first 2 years of their lives. Subsequently the development of this defect prevented their exhibition in later years (personal communication: B. Byles, Great Britain, R. Wietz, U.S.A., and L. Adams, U.S.A.)

Due to lack of a codified retrieval system of world literature in aviculture and other fancies, it is difficult to say whether this topic has been clearly defined before. It is thought that one or more articles appeared addressing this subject in the early 1970s. They were dismissed by a fancy not willing to accept it as a viable concern. It was then attributed to outcrosses to opaline factor by some and cinnamon dilution by others.

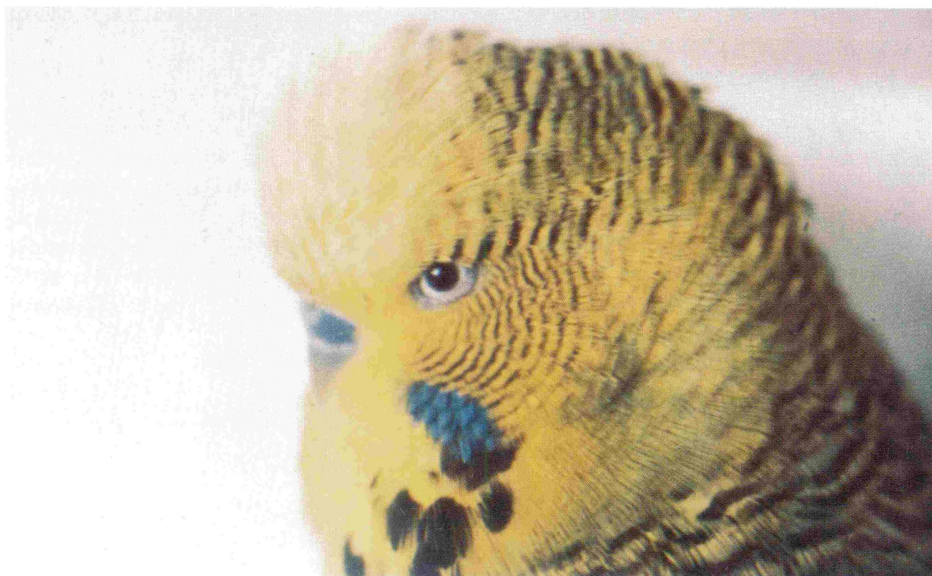


photos by Robert G. Travnicek, M.D.

Light Green Cock, severe dilution of shelling including virtual absence of lateral napes. Severe sheening on crown mantle, scapular, coverts, and secondaries. This bird masks cinnamon and opaline. He is minimally flecked on the right side. He was domestically bred from imported stock. Age 3 years.



American bred hen, minor flaw of dilution of shelling on crown lateral nape, and cheek over to right side of mantle. Age 2 years—mother cinnamon.



English bred Grey Green Cock with both dilution of shelling and subtle sheening most prominent in cheeks, lateral nape (this is a common site), with complete loss of shelling in patches behind the eye. Age 3 years, carries opaline factor.

As this is a definitive article, its purpose is not to attribute cause and effect, but to delineate properties of the disorder or disorders so that observations and studies can be made as to the etiology before dilution of shelling and sheening become a fact of life in all specimens and thus no remedy available.

Initial observations:

- 1.) These traits occur in all colors — normal and cinnamon.
- 2.) They occur in both buffs and yellows, although it is felt that the finely feathered birds suffer most from dilution of shelling.
- 3.) At least one-plus years is required before a specimen begins the dilution of shelling and 2 – 4 years before its full extent is appreciated in any one bird.
- 4.) Sheening occurs earlier and is often independent of dilution of shelling.
- 5.) Primary target for dilution of shelling is the side of the face and side and nape of the neck.
- 6.) Both sexes are affected. It has been felt by some that cocks are more often affected by both traits.

Possible plans of action:

A genetics defect committee and or a sub-committee of judges might be convened to determine how this characteristic should be dealt with on the bench.

A genetics study group or research panel should be formulated to establish a mode of inheritance of this trait and for that matter all abnormal traits, i.e.: under-shod beak, flecking, long-flights, etc.

Accompanying pictures describe both disorders and give the backgrounds of the birds in question ●