

Comparison between Easley Clearbody in budgerigars and Euwing in lovebirds

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Introduction:

1. Easley clearbody

Many Years mutations has been reported which produce clear yellow or white body with normal dark wing markings.

It was in Cage and Aviary Birds that Dr. T. Daniels noticed that they were already known in 1981.

The Dominant Clearbody was established in the USA and Australia at the same time. Some called it Laced Clear and today we also know it as Dominant Clearbody.

The First interesting article came from Mr. C. F. Easley. He said : "The body color changed to white or yellow and wings and shaft feathers became black. The spots are black and the cheek patch are lavender.

The clearness of the body and the darkness of the wing barrings depends on the strength of the factor in the individual bird."

Because Mr. Easley was the First to recognise the mutation it was logical that he gave it the name "Easley Clearbody"

Mr. Easley lived in Rialto, California and when he first saw those birds he called them "laced clear" this was in 1957. At that moment he paired an Opaline Dark Green Cock to a Cobalt hen. In that nest he found the first "laced clear" later named "Easley Clearbody".

That was the start to establish a stud of over the 200 Clearbodies.

He noticed that the depth of wing markings were variable, he also proved the mutation to be an autosomal Dominant.

Only in 1965 he sold some birds. Mr. Easley died in 1973, having disposed of all his stock.

For Europe it was Mr. Molkentin (at that moment living in Germany) who imported two Dominant or Easley Clearbody cocks from California in 1990 and in 1992 Wilfried Kopp (Germany) obtained some birds later on.

It was in 1997 that I bought a pair from Mr. Kopp.

For the moment Easley Clearbodies are not so common , for myself I bred single and double factor easley clearbodies.

Genetics

The Easley Clearbody is dominant over its wild type allele. So it possessing single factor Easley Clearbodies and double factor Easley Clearbodies.

The double factor E. CL. have a clearer body and darker wings than the single factor birds.

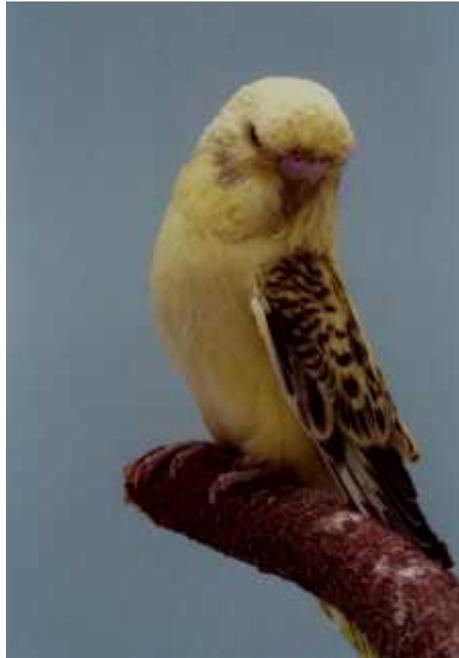
Table of inheritance

1 F Dominant x Normal =	50% 1 F Dominant 50% Normal
1 F Dominant x 1 F Dominant =	25% 2 F Dominant 50% 1 F Dominant 25% Normal
2 F Dominant x Normal =	100% 1 F Dominant
2 F Dominant x 1 F Dominant =	50% 1 F Dominant 50% 2 F Dominant
2 F Dominant x 2 F Dominant =	100% 2 F Dominant



Single factor Easley Clearbody (own bred)

Copyright photo D.Mervilde



Double factor Easley Clearbody (own bred)
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2.Euwing

The Euwing *fischeri* is a mutation that according to the first reports originated from a combination of green x lutino. In relation to the phenotype of the euwing characteristic, it is visually identified through a V-shaped design in the bird's mantle, namely in the scapular contour feathers. The euwing characteristic is identified as an autosomal dominant incomplete, with regard to its genetic inheritance.

The Euwing mutation was initially assumed to be Easley clearbody, but perhaps an optical illusion confused the first observations of this characteristic, in fact it is not the wing feathers that get darker but the scapular and abdomen feathers become lighter, the color dilution becomes even more pronounced when combined with opaline.

Through the new discoveries by Paulo Brito, who proved that Euwing is actually a melanin-reducing mutation, it was necessary to go back to the beginning and make the comparison with Easley clearbody again.

Table of inheritance

The inheritance is the same as indicated above for the Easley clearbody in budgerigars.



Euwing Fischeri copyright photo P.Brito



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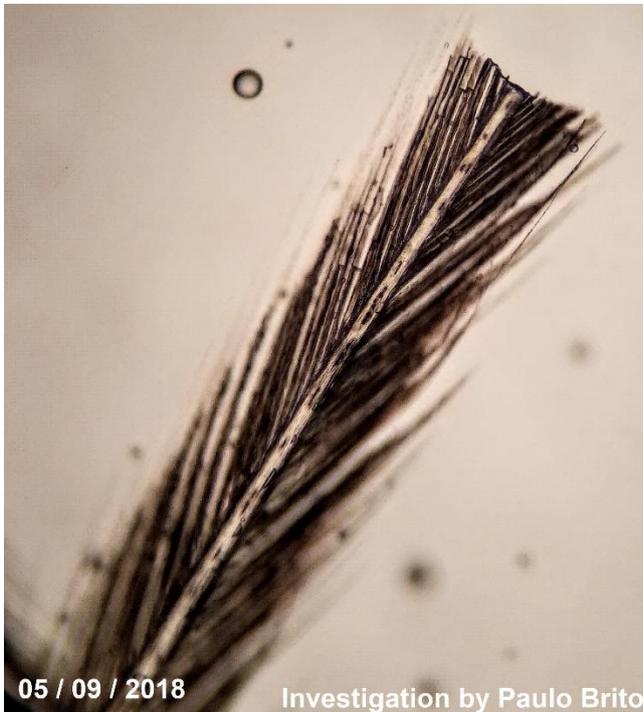
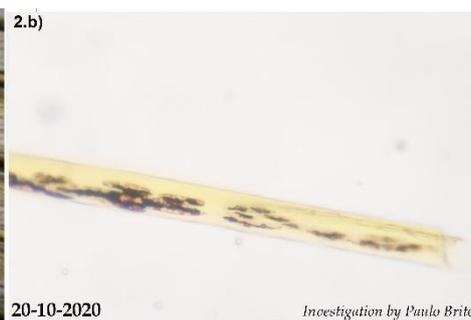


Fig.1 longitudinal view of a barb of scapular feather of an *Agapornis fischeri* blue euwing.

In figure 1 from the visual analysis, attending the revealed colour, it is noticed that the barbules remain composed with melanin and the concentration of this polymer inside the barb is quite variable, being able absent in several regions, the feathers on the abdomen of fischeri euwing also have the reduction of melanin in the center of the barb in a variable way.



2.a) longitudinal view of microscopy to observe 4 barbs, of feather secondary coverts of Easley clearbody.



2.b) longitudinal view of microscopy to observe barb, feather of chest of Easley clearbody.



2.c) longitudinal view of microscopy to observe barb, feather of rump of Easley clearbody.

In figures 2a), b) and c) it is possible to observe a random reduction of melanin in the center of the barb of Easley clearbody feathers, very similar to that found in figure 1.

The melanin in the center of barb have a function also important for the formation of the structural colour because they retain some light spectra with longer wavelengths and so, colours with

shorter wavelengths such as blue, violet or ultraviolet are emitted. Any alteration of the melanin in the center of the barb alters the morphology of the spongy-zone, causing the structural color to be altered, these observations witnessed by Auber in 1957 and Dyck in 1978 were recently confirmed by biologists who believe that the absence, position and composition of the melanin in the centre of the barb is the main responsible for the variation of the structural colour.

Euwing and Easley clearly present the same form of genetic inheritance, and microscopy analysis revealed a very great similarity between them, it is possible that in both species it is possible to observe with the naked eye a "barcode" effect on the abdomen feathers that present these characteristics, this should be if the random reduction of melanin.

It is very important that all breeders identify the mutation in homozygous form without the suspicion of other dominant characteristics present in order to recognize the correct form of inheritance, today we know that the combination of some dominant characteristics can interfere in the final phenotype.