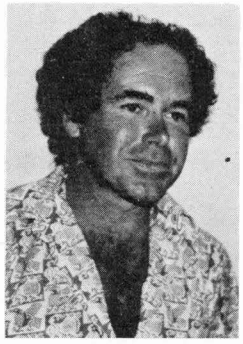
agapornis acres

by Lee Horton

AGAPORNIS ROSEICOLLIS THE PEACH FACE LOVE BIRD "MUTATIONS"



Lee Horton

This article is by no means a scientific work, but, hopefully, a practical discussion on the mutations of the peach face Love Bird. I do not intend to write at great length on the subject of genetics but an understanding of the basic inheritance of the different color variations of the Peach Face Love Bird is necessary. It is through this understanding and through proper breeding programs that we are able to produce viable strains of color.

Many mutations (colors other than normal) are by nature a weakness or mistake. It is for this reason that a concentrated effort must be made to improve the size, strength, fertility and even color of this bird if it is to live and prosper. Thus in the beginning it is not advisable, for example, to breed a Lutino Peach Face to another Lutino Peach Face, even if you were fortunate to have such a mating. It would be far better to breed the Lutino to a normal green Peach Face of good size with excellent fertility and strength in its background. Through this mating you would hopefully be passing on these necessary strengths in the offspring.

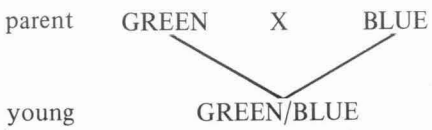
The genetics of color in our birds is not difficult to understand. However, there always seems to be some confusion on the matter. It is for this reason that I have decided to write this article in hopes of some clarification.

For our purposes, color variations in Lovebirds fall into three categories: Recessive, Sex-linked, and Variable Dominant. Mendel's principles of inheritence is truly a basic aid to all breeders of livestock. This is the true story of inheritence and as such is universally accepted by biologists and practical livestock keepers. Every young bird is the outcome of the union of a minute body called the spermatozoon supplied by the cock with the ovum supplied by the hen. This brings together germ or reproductive cells which are known by the general term of gametes or marrying cells. The new cell resulting from the fusion of the two gametes is described as a zygote. Within the gametes there are the chromosomes and within the chromosomes there are the genes which govern the visible and invisible characteristics of the offspring.

In African Love Birds the effects of the Mendelian principles are only well understood in-so-far as the operations of color factors. For the production of any given color it is necessary that either (1) both cock and hen supply the main factor for that color, or (2) one of the parents supply a main factor and the other supplies a sister factor. In the first case the chicks get the main factors from both sides and will be "pure-bred" for the color in question. In the second case the chicks get the main factor from one side only and a sister factor from the other; the chicks, therefore, will be of mixed nature.

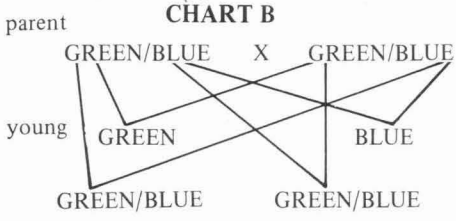
Now the question is, "What will the chicks look like?". For our purposes the main factor completely overpowers the sister factor. The color of the chick is that of the parent that supplies the main factor. When this happens the main factor is called the Dominant factor or color. The sister is then called the recessive factor or color. Discovering dominant colors and recessive colors in this way is of great importance. For example, a pure green Peach Face mated to a Blue Peach Face will produce all green young that are capable of producing Blue. This is because green is dominant over blue which is recessive. These young, therefore, are Green split for Blue, written Green/Blue.

CHART A



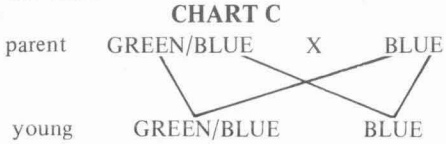
In the above chart a Green dominant mated to a Blue recessive will produce Green/Blue. If these young; i.e. the Green/Blue are mated together, the following will happen:

CHART B



As you can see, there are four possible combinations of color genes: (1) Green-Green, (2) Blue-Blue, (3) Green-Blue, (4) Blue-Green. In number 1 the young are pure Green; number 2 the young are pure Blue; number 3 and 4 the young are Green/Blue; that is, green in appearance and capable of producing Blue. Visibly you cannot tell the difference between 1, 3, or 4. All would have to be test mated to Blue in order to tell which are split for blue.

CHART C



Normal and Pied Peach Face Lovebirds.

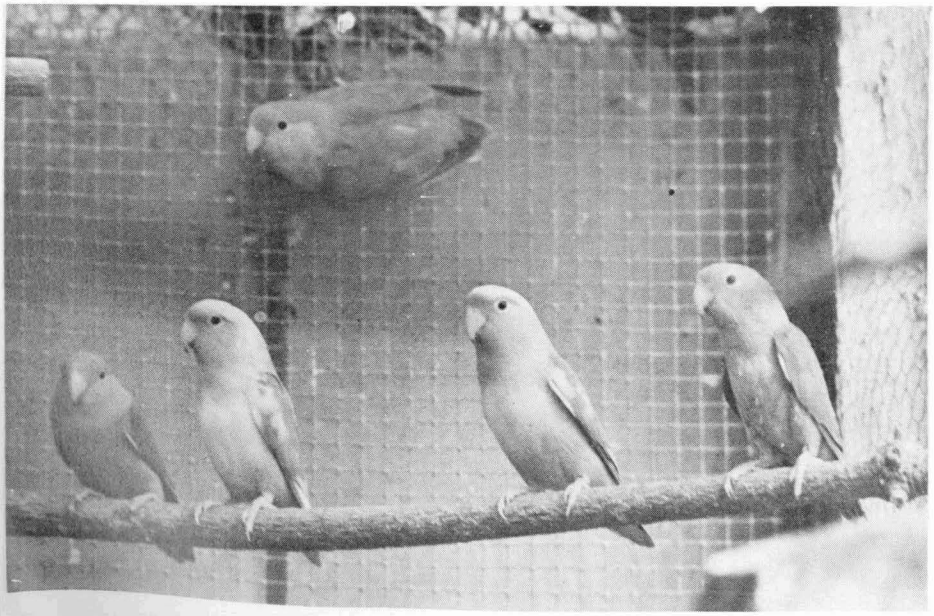


CHART D

parent GREEN X BLUE

young GREEN/BLUE

In Chart C, Blue young are produced proving the green parent is split for Blue. Chart D produces only Green/Blue young which are all visibly Green proving the Green parent to be a Normal Green. By looking at the above charts we should also be able to tell the percentage of each color of young that should result. In Chart A, 100% Green young split for Blue; Chart B, 25% Green (normal); 25% Blue, and 50% Green split for Blue.

In Love Birds we now have more than one recessive color. So what happens when we combine them? Let us use, for example, the yellow Peach Face (dilute). The yellow, as with the Blue, is recessive to the Green. So then a yellow mated to a green will produce all green young split for yellow.

CHART E

parent GREEN X YELLOW

young GREEN/YELLOW

As with Chart B, C, and D, if you substitute Yellow for Blue, you can see the percentages of yellow and Green/Yellow young produced.

What happens when two recessive colors are mated together; for example, Blue and Yellow? The gene that produces a Blue bird and the gene that produces a yellow (dilute) bird are separate genes that can both be visible on the same bird; thus producing a new color or combination of color. This is white (dilute). To better understand this, think of yellow as a dilute form of Green and white as a dilute form of Blue. In other words, a Blue bird receiving dilute genes from both parents will then be White (dilute blue)

CHART F

parent BLUE X YELLOW

young GREEN/WHITE

If the young of the above chart are mated together; that is Green/White to Green/White, 25% of the young will be Blue and half of these will be "dilute blue" or white. There are many possible matings of recessive colors which space does not allow us to go into. This hopefully gives some basic understanding.

Until very recently all mutations of Love Birds were recessive, with only one exception – the pied Peach Face. Even Lutinos of Peach Face, Nyasa and Fischers have been recessive. Because of this fact, many of these color mutations have not been established. Most of these color mutations have even disappeared completely. There now exists a new Lutino Peach Face mutation which has proven to be sex-linked. This means that you can breed to unrelated stock every generation and still come up with Lutino or Green/Lutino young. What is the advantage of the sex-linked mutation? As stated earlier, a new color is usually not as strong as it may have some weaknesses. The advantage of being able to breed it to unrelated superior blood every generation means that these weaknesses can be overcome quickly. As with the recessive colors it can be seen by the aforementioned charts, that you can only outcross to new blood every other generation in order to know which young carry the color upon which you are improving. Thus, the process of strengthening the young is much slower in the recessive mutation.

In the sex-linked inheritance the sex is controlled by the following: The hen has two chromosomes, one an X, or male chromosome; the other a Y, or female, chromosome. The cock has two X chromosomes. If an X chromosome from the cock meets an X chromosome from the hen the youngster will be a male. If it meets a Y chromosome from the hen the offspring will be a female. Therefore, the sex of the young in birds is controlled by the hen. Now if a color gene is attached to the X chromosome of a hen, only half her chicks (on the average) can carry this gene. Her Y chromosome cannot carry it. But the male bird having two X chromosomes, can carry the color on only one X chromosome or on both X chromosomes. This color is then called sex-linked.

In the Lutino Peach Face, for example, the male may be visibly Lutino carrying this color on both X chromosomes, or a Green/Lutino will carry this color on only one X chromosome, whereas the hen having only one X chromosome is Lutino, or normal, not being able to carry the Lutino gene in a split or hidden form.

CHART G

parent

LUTINO COCK X GREEN HEN

X X X Y

young

GREEN/LUTINO COCK LUTION HEN

X LUTINO X X LUTION Y

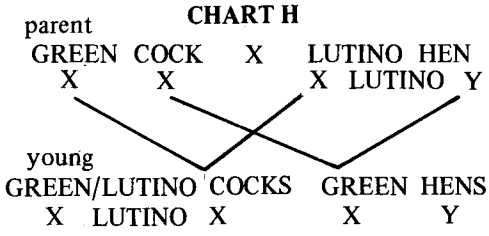
contd on page 25

AGAPORNIS ACRES

contd from page 23

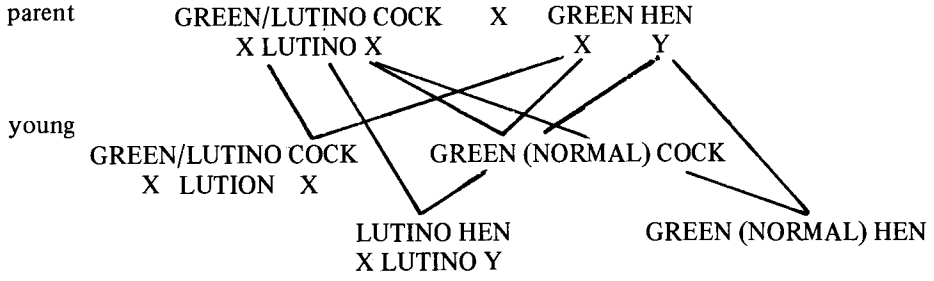
This Chart shows that a Lutino male mated to a normal hen produces two types of young, Lutino hens and Green/Lutino cocks.

CHART H



In this Chart, a Lutino hen mated to a Green (normal) cock produces all green young. The hens are all normal greens and the males are all split Lutino.

CHART I



In this Chart even though both parent birds are normal in appearance and only the male is split for Lutino, you still produce visibly Lutino hens. Thus, improvement of the sex-linked colors is much faster than recessive colors.

There have been many pied forms of Love Birds over the years. Masked Fischers, etc., but none of these has ever been established so their inheritance has never been proven with the exception of the Peach Face Pied. This bird is the only Dominant Mutation that has occurred so far in our Love Birds. Dominant means when bred to a normal green peach face the young in the first generation will usually show Pied feathers, even though the pied genes were passed on by only one of the parents.

In theory, a Pied bird can be pure Pied receiving a pied gene from both parents, or Pied/Green (normal) receiving a Pied gene from one parent, and a green, or normal, gene from the other parent. If this is true, then a double dominant Pied means a Pied not split for normal; green mated to a normal green would produce all Pied/Normal young. In theory this may be true, but to my knowledge I know of no such bird. Maybe the reason is that every Pied is different, ranging from a bird that is 99% pied, almost totally clear, to a bird with only one or two pied feathers. Thus a bird with only one or two pied feathers may be totally hidden is still pied but would easily be mistaken for a normal. I am also sure that more than one form of Pied exists. Many are dilute in color, others being very dark green with great contrast between this and the Pied areas. In any case a Pied mated to a Pied usually produces Pied young with 25% appearing normal-looking in the nest. This may vary greatly but usually holds true. Breeding the best marked pieds together over many generations should produce a majority of birds with the desired markings. Some breeders have selected the lightest Pied (almost clear) and bred them together generation after generation and they have produced a majority of very lightly marked birds. But variances within the strain will still occur. With the advent of the clear yellow Lutino I feel the pied should be

contd on page 30

L.A. PLANNING COMMISSION VOTES NO ON ANIMAL RESTRICTIONS

On November 6, 1975 the Los Angeles City Planning Commission met at the Van Nuys City Hall to deliver their findings after extensive public hearings on whether birds and other animals would be restricted within the city.

In announcing the Commission's unanimous decision to reject the City Council proposed restrictions Mrs. Suzette Neiman, Commission Vice-president, described the proposal as an outstanding example of bureaucratic overkill and a waste of taxpayers' money. The Commission went on to accept the Department of Animal Regulations recommendation to only limit cattle, and at that, one per 4,000 sq. ft., or ten to an acre – the current limit on horses. The Animal Regulations recommendation received strong support from both the A.F.A. and RURAL (Resident United for Residential Agricultural Lifestyle), a San Fernando Valley Homeowner's association.

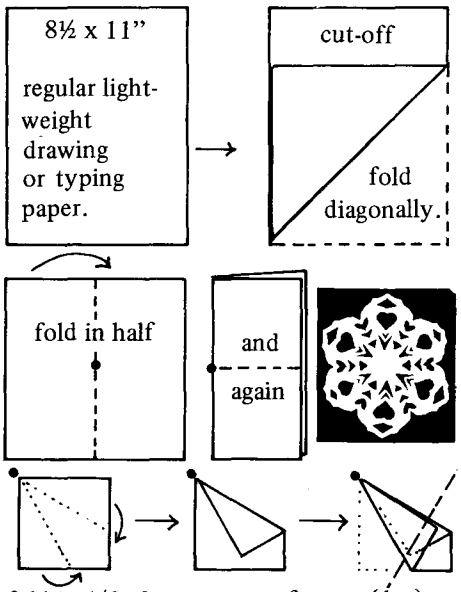
The first round victory was well earned by the supporters of A.F.A. and RURAL – the two leading groups in the struggle to preserve animal owner rights. Jerry Jennings, president of both groups, appeared numerous times on radio, television, and in local newspapers publicizing the issue in gaining support for no restrictions. He, along with Dean Thie, Vice-president of RURAL, and others were responsible for the formation of a coalition of twenty animal oriented groups and homeowners associations, which opposed the restrictions.

The Planning Commission's report and recommendation will subsequently be sent to the City Council Planning Committee and then to the full Council. Continued efforts will be made to insure the adoption of the A.F.A. backed Commission findings ■

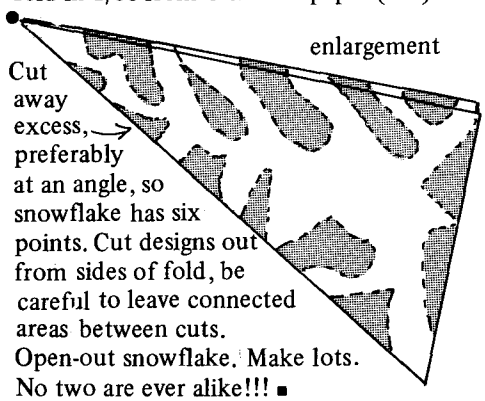
Fledgling's Corner

by Judy Jennings

SNOWFLAKES



fold in 1/3s from center of paper (dot)



Open-out snowflake. Make lots. No two are ever alike!!! ■

AGAPORNIS ACRES

contd. from page 25

bred for depth of color and the greatest contrast between light and dark areas. Another note of interest is that very light Pieds mated to light Pieds over generations have, in many cases, showed a marked decrease in fertility, averaging only two young per nest. This may have nothing to do with the Pied gene and only be the particular strain of bird, but this has occurred in at least three unrelated cases of which I am aware.

In the next issue I will talk about the Black Masked (Agapornis personata). This is certainly the next most widely aviary bred Love Bird. This bird is also very easily bred and is usually a very reliable parent. In recent years some serious problems with the Black Masked have occurred in aviaries throughout the country. These problems and their possible solutions will also be discussed in depth. Also the Black Masked color mutations and genetics will be discussed.

If any of the readers have had unusual problems or interesting results with the breeding of the African Love Bird, please write and let me know. The more information compiled on these wonderful birds the better our understanding of them.

Please write: Agapornis Acres
2376 Bella Vista Vista, California 92083 ■

TERRITORIALITY IN BIRDS

contd from page 27

birds of prey only a narrow area near or at the nest is defended. English Sparrows are often semi-colonial and only defend the nest itself.

Non-breeding, feeding only is a type of territory that may be defended in winter only or it may be an area defended but not included in the breeding territory.

Winter territory is an area defended for feeding purposes during the non-breeding season. Mockingbird pairs break up after the nesting period and individuals of both sexes defend solitary territories through the winter. Females sing and fight only during the fall and winter when they are holding solitary territories. Males hold territories throughout the year, being solitary in the fall and winter.

Mr. William Rowan demonstrated "roosting territoriality" in London by shooting 40 individual Starlings from a long line of sleeping birds. The spaces which these 40 birds had occupied remained vacant for some considerable time. Another man placed a stuffed specimen of a Creeper (Certhia familiaris) in the roosting crevice used by a wild, living Creeper. When the owner of the crevice returned to its sleeping place it violently attacked the specimen.

These territorial classifications should not be interpreted as rigid categories. Some species have two or more types and others are intermediate. Some species of birds such as Cowbirds, Society Finches, and some species of Parrakeets seem to lack territorial responses. Some species seem to be attached to a particular area but do not defend it. This seems often to be true in wintering birds.

Territorial behavior is not limited to birds. It has been demonstrated in fish, lizards, and mammals. It may occur in ants and crabs. Thus territorial behavior is known to occur widely among vertebrate animals. It is based upon a positive reaction to a particular place and a negative reaction to other individuals.

Territorial behavior serves as a device for regulating interference in the nesting cycle, to bring the sexes together; to assist in pair formation; to ensure an adequate supply of food during the breeding period ■

Watch for Part II in next issue of Watchbird.