Rare Cockatiel Color Mutations

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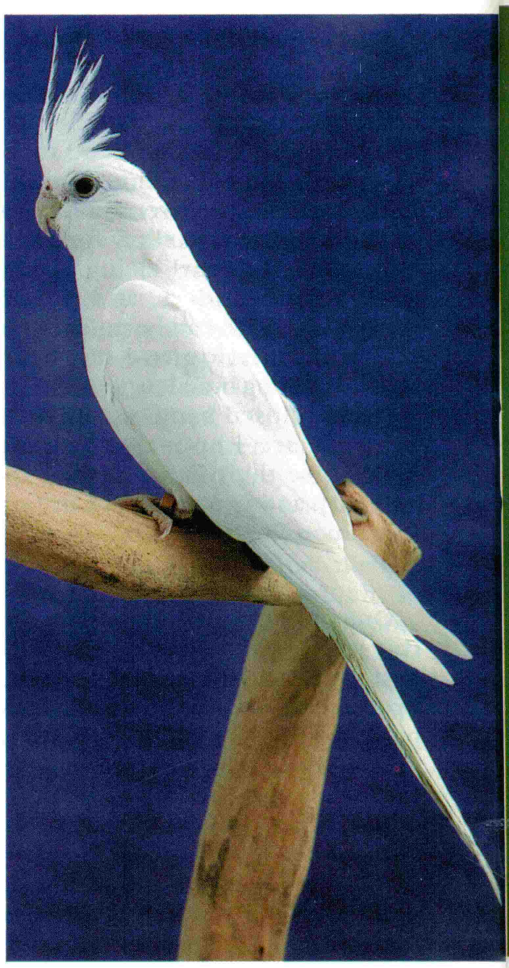
Photos by Herschel Burgin

At many of the cockatiel shows staged around the country, fanciers are seeing a growing number of "new" and unusual color combinations benched under the rare varieties in the cockatiel division. In addition to the standard mutations normally benched, one may now see a growing number of fancy rares which undoubtedly have caught the eye of many color breeders. Arriving during the mid- to late 1980s, these colors are becoming more and more popular, and should increase in popularity, and hopefully on the showbench, during the decade of the '90s.

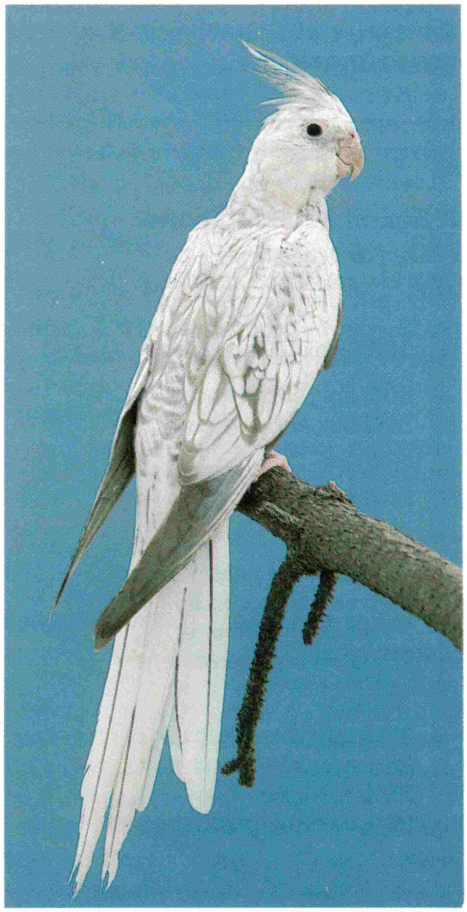
The challenge of working with the rare varieties is to breed for superior color and markings, while maintaining the size, proportions and shape of the Standard Exhibition Bird. This

Whiteface cock

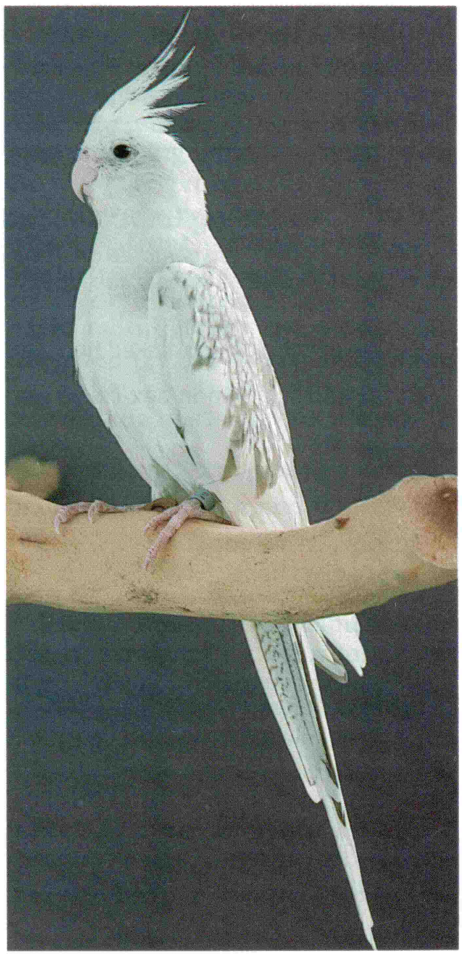


Albino hen

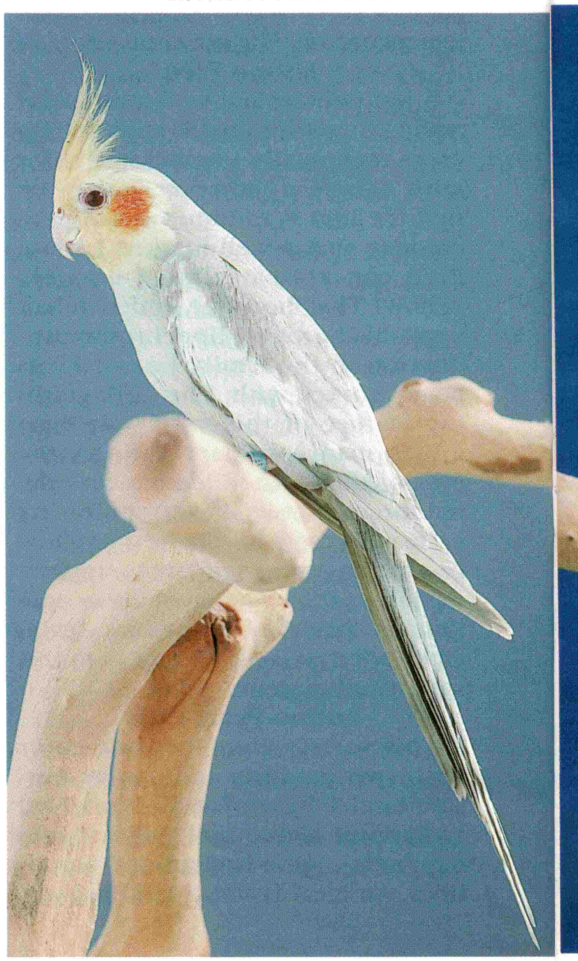
Whiteface-Cinnamon-Pearl hen

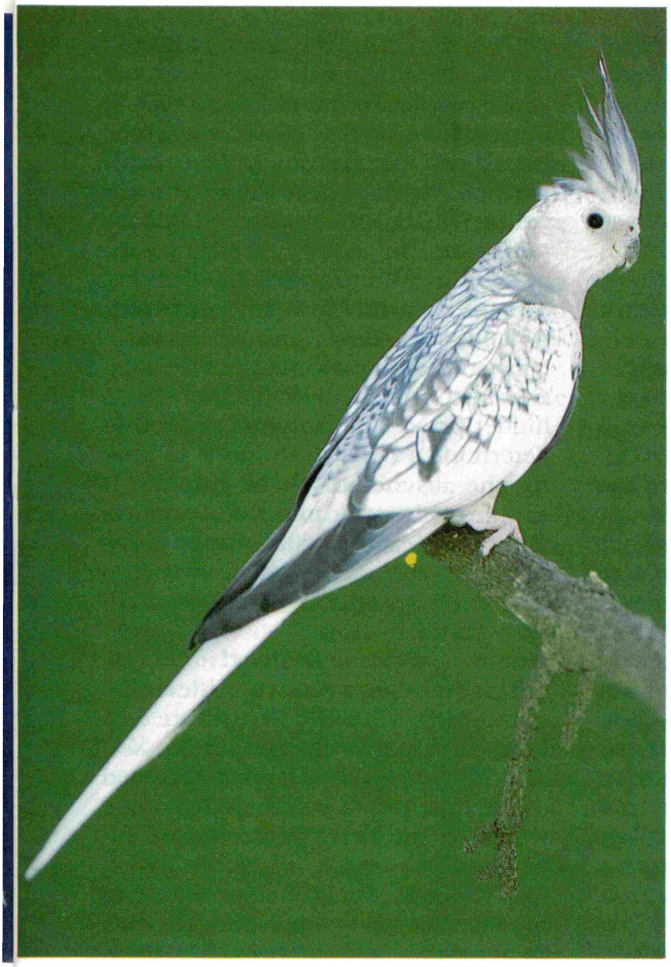


Whiteface-Cinnamon-Pearl-Pied hen

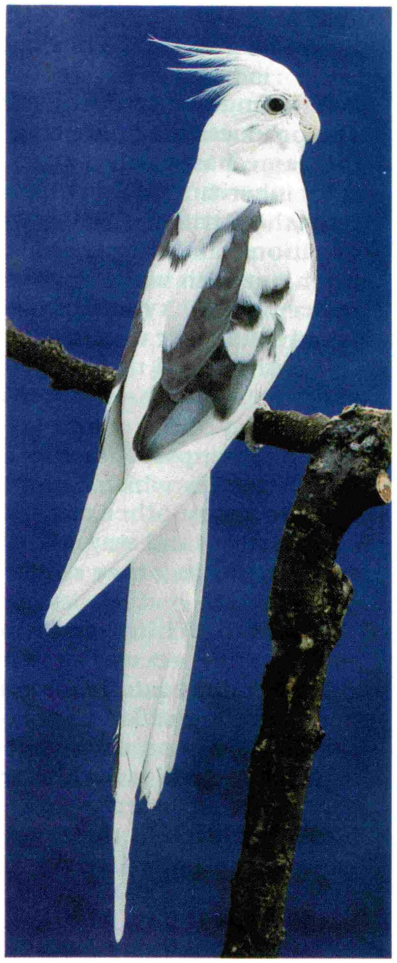


Recessive Silver cock





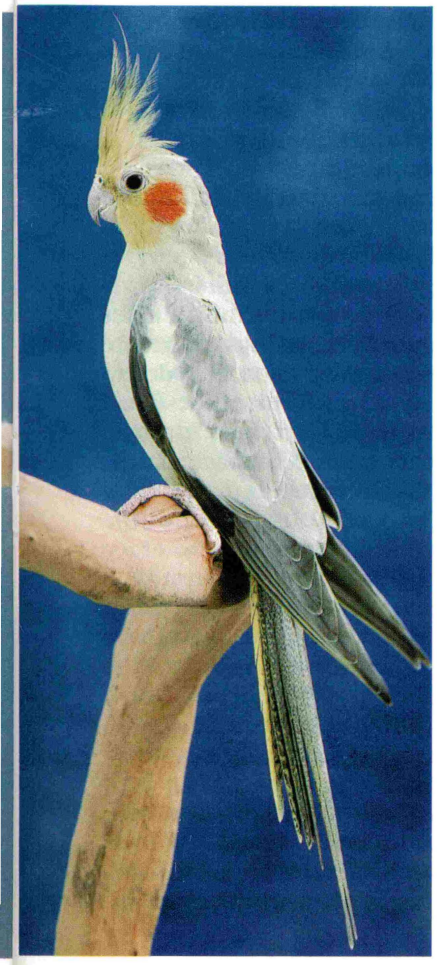
Whiteface-Pearl hen



Whiteface-Pied cock

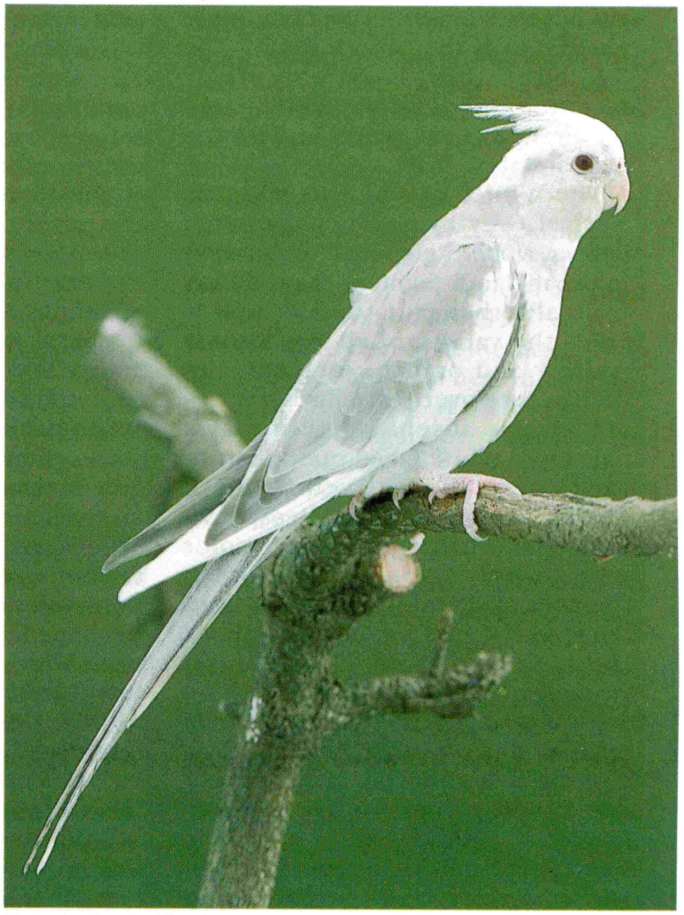
Whiteface-Cinnamon-Pied cock

Recessive Silver hen



Young Recessive Silver-Pied cock

Whiteface-Recessive Silver-Pied cock



Photos by Herschel Burgin

may take several generations and years of breeding to perfect, but the satisfaction in producing a top color line and the production of quality stock is worth the time and commitment invested. Color breeding a rare variety can be a loftier challenge than working with the established lines of standard mutations. And when working for the showbench, much patience is required.

The following is a cross-section of some of the rarer color varieties bred and exhibited today:

Whiteface

The Whiteface, or Charcoal cockatiel as it is sometimes referred to in Europe, was first imported into the U.S. during the early 1980s by American aviculturist Dale Thompson. The rules governing its color production are exceptional and its appearance enabled the production of the Albino, a man-made cross mutation (described further along), as well as other exciting combinations.

The Whiteface mutation lacks all lipochrome (yellow and orange) pigmentation and, for this reason, is dramatically different from any other cockatiel mutation every produced. In other words, neither yellow nor orange coloration can be produced in the Whiteface mutation. Therefore, neither sex carries the usual orange ear covert feathers, more commonly referred to as the "cheek patch." The Whiteface, then, is the only *single* mutation in cockatiels which lacks the orange cheek patch in *both* the male and the female.

The Whiteface contrasts with the Normal Grey by producing a much deeper, richer "charcoal" coloration in the melanin pigment. As it differs from all other mutations in that it voids the variety of all lipochrome (yellow and orange) pigment, the orange ear coverts or cheek patches are always absent. Mature males develop a white facial mask in contrast to the typical yellow mask carried by other varieties. Hens, however, retain their charcoal face color with corresponding light areas, as in the normal varieties, perhaps around the forehead, crown, lores or beneath the lower mandible. Their areas, instead of being yellow, however, are white. The white wing-bar is retained, the eyes are pigmented dark and the feet and beak acquire additional color pigment as the birds mature.

As the mutation is recessive in reproduction, *both* parents must carry the gene for Whiteface, or be "split," in order to have visual Whiteface young in the first generation. The production of offspring follows the same basic rules for recessive color inheritance. Of significant interest is the fact that all baby Whiteface mutations, and their crosses, always hatch out with white down feathers, rather than the typical yellow down found in all other varieties.

It is theorized that the Whiteface mutation is nature's equivalent to the production of the color blue as seen in most other psittacine species. This, then, is the key which has opened the door to many other exciting color combinations and may still yet play a future role in other mutations to come.

Albino (Whiteface-Lutino)

When the recessive Whiteface cockatiel (our equivalent to blue) was produced, it enabled us to cross it to the Lutino, our only sex-linked "ino" series bird, and with the resulting generation of heterozygous or split birds bred back to their parents, we were able to produce the resulting cross-mutation, the Whiteface-Lutino, now known as the Albino.

Reportedly, the first Albino was bred in the Netherlands. It is a completely stark white bird, void of any color pigmentation, both lipochrome *and* melanin. It is easy to remember this when we recall "the absence of all color is white." As this variety completely lacks all pigmentation, the feet and beak are pink, and the eyes, as expected, are red.

The Albino may be bred by crossing the proper combination splits of the recessive Whiteface mutation with the sex-linked Lutino mutation. In effect, the Whiteface mutation works to cancel out the orange cheek patch and yellow coloration by voiding the bird of all lipochrome pigment. When paired to the Lutino, the "ino" works to mask or cancel the charcoal grey melanin pigment of the Whiteface. Therefore, the Albino mutation of today as we know it is not a spontaneous mutation but, rather, a non-spontaneous, man-made color, produced from two existing mutations! Perhaps one day we may be fortunate to produce a spontaneous Albino, i.e. a single mutation in its own right, without having to combine other mutations. Whether or not this will ever happen, or which rules of inheritance will prevail (e.g. sex-linkage, autosomal recessive, etc.) remains to be seen.

Unfortunately, the term "Albino" has been improperly used over the years to describe the Lutino mutation, both in the pet trade and among some breeders, particularly for those Lutinos which appear more white in color. This is unfortunate and may be confusing, since today we do have a pure white Albino as described above. The two should not be confused, however, as the Albino (Whiteface-Lutino cross mutation) is a more valuable bird and usually will command a higher price. The simplest method to determine a "pure" Albino is to look for the absence of cheek patches. If the specimen is completely white with red eyes, but with *orange cheek patches*, you merely have a Lutino without a lipochrome (yellow) wash in its family lines.

Whiteface-Pearl

This stunning variety is achieved by combining both the Whiteface and Pearl mutation in the proper crosses. The Whiteface mutation has removed the orange cheek patch, added some white to the face, and removed all yellow lipochrome coloration which may have originally been present in the Pearl markings (possibly creating an artificial "silver" pearl, which is *not* to be confused with the Recessive Silver or Dominant Silver mutation!).

The Pearl mutation is responsible for the individual pearl "lacings" extending from the nape and facial area, down over the neck, back, wings, and rump, being heavily concentrated at the shoulders, which is most desirable. Some crest and most tail feathers are also depigmented white and a darker "vein" down the center of the tail feathers, corresponding to the Pearl mutation, is permissible. Upon adulthood, males may *lose* their Pearl lacings, therefore closed banding is advised in order to distinguish adult Whiteface-Pearl males who have lost their lacings, from ordinary adult Whiteface males.

Whiteface-Pied

The Whiteface-Pied is a double recessive, combining the Whiteface factor with Pied markings, and is a difficult cross-mutation to breed in a visually pleasing form. Again, the Whiteface mutation has removed the orange cheek patch and all yellow lipochrome tones from the Pied wash. Since Pieds are judged on symmetry of markings, as well as an optimally clear tail, clear flights and face, it is best to use well-marked Pieds as foundation stock in breeding this challenging color combination.

Unfortunately, the heavier the Pied (white) wash (remember, the Whiteface factor has removed any trace of yellow wash), the smaller the size of the bird! Therefore, the challenge is to work with well-marked, *large* Pied stock, with good sized Whiteface stock. Depth of color is another 5% of the overall color category (totalling 10% of most standards), so attention should also be paid to selecting Pieds and Whiteface stock of *even* color, without the effect of an unattractive "marbled" or diluted color.

Whiteface-Pearl-Pied

Even more challenging is the production of the triple mutation Whiteface-Pearl-Pied. The above description of Whiteface-Pearls and Whiteface-Pieds apply to this triple mutation and can be successfully combined to produce some stunning birds. While standards do not yet dictate the degree of Pied wash, I personally feel it is preferable to retain enough grey melanin pigment on the area of the back to support a high degree of heavy Pearl lacings to contrast with the surrounding Pied (white) wash. Once again, the challenge lies in maintaining size and type in the bird, along with pleasing markings. Care should again be given to proper record keeping and closed banding Whiteface-Pearl-Pied males who, in particular, can later lose their Pearl lacings upon full maturity, and thus become indistinguishable from adult Whiteface-Pied males.

Whiteface-Cinnamon

The Whiteface-Cinnamon is a combination of the proper crosses of the Whiteface with the Cinnamon mutation. The Whiteface mutation is responsible for removing the yellow (lipochrome) spots from the underwing flights, eradicating the yellow barring from the tail and erasing any yellow pigment which may have appeared within the face or crest of the hen. These areas now, rather than appearing yellow, may instead appear white. The same effect will be found in males, eliminating the yellow face and orange cheek patches which are found in all Normal Cinnamon cocks, instead producing the totally white face mask of the Whiteface mutation.

Although the Whiteface factor does play a role in modifying the melanin pigment (i.e. grey, brown, etc.), the goal of breeding Whiteface-Cinnamons is to produce specimens which retain as much brown tone as possible. The earlier Whiteface-Cinnamons sported a greyer cast to their Cinnamon color whereas some recently shown birds have been noted with a truer brown coloration, which is more desirable by show standards. Whether this is a natural progression in the improvement of the mutation, or is credited to selectively breeding particular family lines, can only be hypothesized at this time. As one might expect with Cinnamons, the eyes are dark, feet are depigmented (light) and some pigment may be carried in the upper mandible of the beak.

Whiteface-Cinnamon-Pied

This triple mutation is as described above with the addition of a Pied (white) wash to the body. Ideally, the wash should cover the face, all wing flights and tail feathers of both cocks and hens. Enough Cinnamon should be retained to contrast with the Pied markings and should be of a more pronounced brown tone without evidence of marbling or loss of color depth, which is the challenge, along with retaining size, when working with this variety.

Whiteface-Cinnamon-Pearl

The Whiteface-Cinnamon-Pearl is a triple mutation which follows the above description of the Whiteface-Cinnamon, with the addition of the Pearl mutation. The Pearl lacings will be white since the Whiteface factor has now eliminated any yellow pigment, and should preferably be extensive, covering the bird from the nape area, down over the mantle, back and rump, with a heavier concentration at the shoulders. The dark, central "veins" to the tail feathers are again permissible owing to the Pearl mutation. Enough Cinnamon should be retained to help contrast the Pearl lacings, while maintaining the desirable browner tone. Upon maturity, adult males can lose their Pearl lacings and, unless close banded and careful records are kept, they may be indistinguishable later on from Whiteface-Cinnamon males.

Whiteface-Cinnamon-Pearl-Pied

This quadruple rare combination can be absolutely stunning but will take several generations to breed using the proper crosses involving all four mutations. The above descriptions of the Whiteface-Cinnamon-Pied and Whiteface-Cinnamon-Pearl both apply. In addition to the Whiteface factor eliminating the orange cheek patch and any yellow pigment; the ground color of the Cinnamon mutation; and the hopefully extensive lacings of the Pearl mutation; the Pied wash will now color the face, chest, all flight and tail feathers in white. Those specimens which retain some Cinnamon color on the underside of the tail can be visually sexed, as hens (as well as any immatures) retain undertail barring patterns. As with other varieties, all Whiteface-Cinnamon-Pearl-Pied males must be closed banded since they are also subject to losing their Pearl lacings upon maturity, and so become indistinguishable from Whiteface-Cinnamon-Pieds later on. The amount of overall Pied wash does vary so care should be taken to work with *linebred* Pieds whose patterns are well fixed while maintaining good size. Some pleasing birds of this variety can be produced with an even cinnamon band across the breast, indicative of a medium, to perhaps slightly heavy, marked Pied.

Recessive Silver

As its name suggests, the Recessive Silver is recessive in reproduction and was one of the first recessive mutations to appear after the Pied. It is felt that a wide fluctuation in color exists among individuals of this variety. The melanin pigment is modified and can appear as a steel or silvery-grey to a fawnish-brown tone. Some individuals have red depigmented eyes, while others can assumedly acquire melanin and appear more brown. As with the other varieties, the males carry the yellow face mask, while the hens carry just a touch or smaller amount of yellow about the face.

The original Recessive Silvers of Europe are reported to have had some incidence of blindness which was thought to be genetic. This understandably put a damper on the enthusiasm of the American aviculturists, however, eventually, Recessive Silvers did receive some attention among color breeders here in the U.S. once the incidence of blindness was proven to no longer be a problem.

Slower to rise to popularity, the Recessive Silver has yet to be crossed to other mutations in any great numbers. This, however, may have been of benefit since it has given some aviculturists the chance to build vigor and strength among this originally weaker recessive mutation, presumedly by breeding out to larger, healthier Normal Grey stock. More recently, we are starting to see Recessive Silvers and some of their cross-mutations benched in the Rare Section at shows.

Fallow

Another recessive mutation, the Fallow never achieved the degree of

popularity as experienced by other recessives such as the Pied and the Whiteface mutations. In the Fallow, a different modification of the melanin pigment occurs creating an overall light tannish-buff tone. It appears that the modifier which acts upon the melanin pigment works to reduce both the strength and the tone of coloration and may, therefore, act as a dilute factor. I have, at times, even referred to the Fallow as a paler imitation of the Cinnamon.

The remarkable feature of the Fallow is the more vivid yellow face mask worn by both the male *and the female!* Some breeders have even commented that the yellow face of the Fallow is even more striking than the yellow mask carried by the Cinnamon male. Another unusual feature is the suffusion of yellow lipochrome which extends down the breast and abdomen of females, whereas males lack this finer attire. This is an unusual occurrence in the standard plumage of birds where the males are usually in a showier dress in order to attract the attention of the females for breeding.

Fallows lack any melanin pigment in the eyes, causing them to appear bright red. The brilliance of the red eye can be likened more to the Lutino-Pied's ruby colored eye, rather than ordinary Lutinos (as Lutinos, upon maturity, very often acquire some pigmentation to cause the eyes to slightly darken losing their red appearance). The beak and feet are also depigmented appearing light in color.

Fallow-Pied

Of the cross-mutations, the Fallow has been more commonly bred with the Pied mutation to produce the unique double recessive Fallow-Pied. There can be great variation between individuals in both color and the extent of markings, which is partly affected by background Pied bloodlines.

As the dilute factor of the Fallow can have the effect of "washing out" other colors, when breeding the Fallow cross-mutations, it is probably wise to avoid using either the Lutino, which would theoretically only mask the Fallow, or the Cinnamon mutation, which could act as another dilute to further weaken the Fallow color. This, however, has not been proven and is merely stated as speculation.

Recessive Silver-Fallow

More recently, some breeders have taken an interest in breeding the Recessive Silver to the Fallow to produce a new and unexpected color, informally dubbed "Platinum," apparently describing this double recessive's combined coloration, which has a metallic tone. As it has been three years since I was fortunate enough to see one exhibited on the showbench, I will not trust to memory to describe it further. Unfortunately again, some confusion could result as the breeders working with the Whiteface-Dominant Silver cross have also dubbed that combination with the title "Platinum," thus describing its color (see article elsewhere in this issue entitled "New Dominant Silver Mutation of Europe").

Recessive Silver-Pied

This double recessive mutation is starting to attract some attention now that Recessive Silvers no longer seem to carry prior genetic problems. Again, the melanin pigment is modified to hopefully achieve a silvery-grey tone which can be quite elegant against a symmetrical Pied wash. The extent of the Pied wash and any lipochrome (yellow) coloration is determined primarily from Pied family bloodlines and is more attractive when all flights, tail feathers and the face carry the wash. The eyes should remain red, with light, depigmented beak and feet. Males retain the yellow face mask while hens may carry some small amount of yellow, if any, about the face. As lipochromes are not altered, both retain the orange cheek patch.

Whiteface-Recessive Silver

Another double recessive which should gain in popularity. The Whiteface factor is again responsible for removing all lipochrome (yellow and orange) pigment and, therefore, eliminates the orange cheek patches and any trace of yellow in the body. The overall body color of the soft silvery-grey could be somewhat altered by a lack of the usual yellow lipochrome pigment. The males acquire a white mask and the hens retain perhaps some white areas about the face, e.g. lores, forehead, cheek region, etc.

Whiteface-Recessive Silver-Pied

This triple recessive mutation will take several generations to produce depending upon the bird's full genotype and if splits are used, etc. In addition to the above description of Whiteface-Recessive Silver, a Pied wash is added to the combination which can produce a very handsome effect. The Pied wash will always be white since the Whiteface factor has eradicated all yellow lipochrome pigment. Again, the extent of Pied markings are a direct correlation to the background of Pied family bloodlines used and it would be preferable to have a clear wash over the face, crest, all wing flights and tail feathers, at minimum.

Dominant Silver

This new mutation is the first *dominant* mutation to occur in cockatiels to date and is not yet available in the United States. Occurring in the United Kingdom, it was first bred by Mr. Terry Cole, and now is an established strain being bred with other colors. The Dominant Silver is a pastel-silver shade of grey, with darker areas appearing in the head and neck regions, creating an appearance of a "skullcap." Yellow and orange lipochrome pigment may appear brighter. The eyes are black and the feet are dark grey. The mutation comes in Single and Double Factor birds. The Double Factor birds appear as a dilute: there occurs a further dilution where individuals are almost the color of Lutino, but with a grey wash, along with the usual black eyes and dark legs. See separate article on this variety for their full description and unique breeding expectations.

Whiteface-Dominant Silver

This mutation combines for the first time a recessive with a dominant mutation which reportedly appears as a very pleasing "Platinum." The Whiteface factor is responsible for the loss of yellow and orange lipochrome pigment, once again eradicating the orange cheek patch, and causes a metallic-looking appearance. Hopefully, should this cross-mutation become available in the United States, it will not be confused with what some U.S. color breeders refer to as "Platinums" or Recessive Silver-Fallows.

Readers should note that crossing one mutation to another mutation does not automatically produce the combined color, unless the appropriate heterozygous (split) birds are used and their percentages are calculated. This article is intended merely to describe the newer colors and is not intended to instruct readers on which birds to pair for these results.

Reference

Rubin, Linda S. *The Complete Guide to Cockatiel Color Mutations.* Chapter 9, Whiteface and Albino. Chapter 10, Silvers and Fallows. Newton, MA. ©1988. ●