



White belly trait on Black White belly trait on blue ck White belly trait on Kite Bronze

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PAGE 321

. Answers given by elementary students to “Why did God make mothers?”

1. She is the only one that knows where the scotch tape is.
2. To help us out of there when we are getting born.
3. Mostly to clean house.

Answers given to “What did Mom need to know about dad before she married him?”

1. His last name
2. His background, like is he a crook? Does he get drunk on beer?
3. Does he make at least \$800 a year? Did he say no to drugs and yes to chores?

Answers given to “Who’s the boss at your house?”

1. Mom doesn’t want to be, but she has to because dad’s such a goof ball.
2. Mom. You can tell by room inspection. She sees the stuff under the bed.
3. I guess Mom is, but only because she has a lot more to do than dad.

I GOT MY COMPUTER BACK AND IT IS WORKING FINE!

Here are some pictures that I could not scan into the March issue.

Michael on page 312 had sent a series of “recessive splash”:



This series shows the variable penetrance of the pied gene plus the second two pictures show the recessive trait of the crop crescent. Also in this complex may be the influence of the gene for white flights which also usually produces white feathers on the feet. When feathers are present then the genes for slipper and/or Hosen are present. Of course, when both are present such as here, then the muffs appear.



Here we see the increased penetrance of the pied gene.



Pencilled Highflier

On page 313, I had substituted a picture from my files for the red bird picture Michael had sent. Number 3 (penciled highflier) is that picture.

MICHAEL SPADONI EMAILS: 17nov'04 excerpts:

Spread will give a whiter ground colour, usually it can also give a Qualmond type appearance, this I believe is due to Spread masking bronze, so no bronze is expressed leaving no ground colour.

My blue bar Almond racer does not possess ground colour because he doesn't possess bronze so he has a white ground colour. So the white ground colour is due to no bronze being expressed by either not being present or being masked/blocked out by another modifier/gene.

I love using pictures, here is a great example of a black Almond with a large degree of change over 2 moults:



Nest feathers



During first moult



Yearling after 2nd moult

EDITOR

Wow, Michael, I never saw one change that fast. Usually the Almonds do not attain that degree of inactivity of the Almond gene until they are at least 5 years old and some even over 8 years old.

STEVE SOUZA WRITES: excerpt

If you mate a pure Nun to a to a recessive white of another unrelated breed and you produce Nun marking, whites or intermediates then don't you have to make the assumption that they are alleles? Because if they were not allelic you would only breed solid selfs?

MICHAEL SPADONI WRITES:

This sounds right, as long as the gene being tested for (recessive pied of some kind?) is in fact not a partial dominant.

EDITOR:

Yes, basically this sounds right, but I know from experience that when two self whites are mated together they may produce patterned birds that show any thing from some colored feathers to colored tails or even a half to a mostly colored bird. Not just solid self colored birds. Why? I haven't figured that out yet.

Also self colored birds of two different lines may produce pied or even white birds. Quite a puzzle yet to be unraveled.

DICK CRYBERG WRITES:17nov'04 excerpts

It does not seem to me that simply crossing a bird which carries some pied gene, we will call pi for the moment, with a recessive white proves much of anything unless the offspring turn out to be some self color. In that case you can be pretty sure that the two genes are not alleles. But we all know that in general that is not what happens. In general you get something intermediate between white and the pied pattern. So the real question boils down to this: Is there anything in genetics that dictates that the following genotype (z^*wh/z^*pi) must produce an intermediate phenotype while the genotype ($z^*wh/Z+,pi/Pi+$) can not produce an intermediate phenotype?

I know of nothing in genetics that dictates that the second genotype can not be intermediate.

With that, how could we prove that some gene pi is or is not on the Z locus? Well, one way would be to first mate a bird that is pi//pi. This is an essential step I think. Now cross this pi//pi bird with a known homozygous recessive white bird and make some birds I will call F1. If the pi gene is on the Z locus you have now made the first genotype listed above. If the pi gene is not on the Z locus you have made genotype two above.

Take this F1 and mate it back to the homozygous pi bird and select those that look like they are pi//pi for an F2. If things are well behaved, half of the young should be pi//pi. If the ratio is far off from half, you have lots of problems and are likely dealing with more than two genes or two alleles. Or statistics are killing you and you need to breed more to be sure. But if things are well behaved, you now have three possible genotypes:

z^*pi/z^*pi if pi is actually on the z locus

$Z+//Z+, pi//pi$, and $z^*wh//Z+, pi//pi$ if pi is not on the z locus

JDF SENDS: I hate people that forward those hoax warnings as much as anyone, but this one is important! Send this warning to everyone on your mailing list!

If someone comes to your front door saying that they are conducting a survey on deer ticks and asks you to take your clothes off, do not do it!

IT IS A SCAM; they only want to see you naked.

I wish I'd gotten this message yesterday. I feel so stupid and cheap.

EDITORS REPLY:

I was going to write an answer to an earlier email, Dick, but since you wrote, it makes this a good place to consider the whites. The problem is much more complicated than it seems at first sight.

First one must mate the pied bird (whether it is all white or partly white) to a solid color bird from a line known not to have pied genes. This is to ascertain whether it is caused by a recessive gene or a dominant gene and not a combination of two or more recessives or a recessive and a dominant.

If the resultant young are solid color then it is recessive white and one can use these to mate to another to see which kind of white it is. Is it a migrational white, a directional white, or a pattern white? Care should be taken to know whether it is a pattern white, if so, whether it is dependent upon the base color.

After we investigate two whites this way, the F1s of each can be mated together to see what segregates out. Also F1s of each of the two can be mated together to get F2s to see if some of these are the same as the pied parent.

Once we have done this, we will know how to proceed as to whether the two mated together produce one or the other or an intermediate. The problem begs the question – are all the ones that look like this, genetically similar and if possibly they are alleles.

Consider the pattern whites:

I investigated the Lahores. When I mated Lahores to self colored Giant Homers I got F1s that were mostly colored with white ticking around the neck and head. When I mated Lahores to white Giant Homers I got F1s that were mostly white with dark ticking on the neck and head. What did this tell me?

When I mated another pattern white (Baldhead) to the Lahore, the F1s were 100% Baldheads (they should have been hetero. Baldhead but appeared homo Baldhead). This told me that the Lahore pattern was recessive to the Baldhead Pattern. Since these F1s looked like homo Baldheads, I mated F1s together and got 100% homo Baldhead phenotype. I mated the F1s back to the Lahore parents. Out of the many young produced, one was a fairly good marked Lahore. This reinforced the idea that Lahore Pattern was recessive to Baldhead Pattern but also indicated that there were more than two genes working here.

Now consider the self white (recessive white). When I mated a recessive white Homer to a recessive white Roller; they produced some solid colored young, a few dark tailed young, and some about half white young. This showed that both the parents were recessive white but they were not genetically the same white. Was either one the recessive white that is allelic to gazzi? Or are the both?

(I told this one before.) I mated a Black Russian Tumbler (from a black strain) to a white Russian Tumbler (from a white strain) and they produced (F1) young that were pattern pied. Mated together, these pattern pied produced (F2) young that were pattern pied and some whites. No solid color birds were among the F2s or later. Thus the whites were in reality at least two different whites. The recessive whites were covering a dominant pied pattern.

These are the type things we need to know when crossing two pied colorations. If we cross say Swallows with Helmets, we need to know what is being hidden in each before we say, "They gave me intermediated, so they are alleles."

We must remember that two genes can produce synergistic effects. Thus two pied with white bellies may produce white bellies along with other effects. Or as seen when you put a white head on a white flighted bird, the belly especially around the vent may show white. Or when you put white flights on a muffed bird, the muffs normally will be as white as the flights. The more white flights, the more white muff feathers.

Another problem, and I know all of you have seen this: a self colored strain of birds will occasionally throw a youngster with a white feather or two in the wing or tail when the strain never has had any such white feathers before. These may be the result of a genetic or somatic mutation which one must investigate.

So you see, there are lots more questions than there are answers and one must proceed with care before coming to a conclusion on any of the pied traits.

DICK CRYBERG WRITES: EXCERPTS

Mating to a solid self is fine. But I really doubt if anyone has a self that truly is known to be free of any possible pied influence.

I presume you suggest mating to gazzi as opposed to white because you think there is only one gazzi but you have evidence that there is more than one recessive white?

I will give my personal prejudice. If we can have some 60 or so identified alleles at the human albino locus, I see no reason we could not have that many or more at the recessive white site. Your evidence of more than one recessive white is a perfect example.

And I think the first thing you must do is make a pied homozygote. When you try to do this, you are going to get some information about the number of genes involved.

But I think the most important point both of us are trying to make is that you can not do a cross with anything and look at the F1 and conclude if it is allelic or non-allelic to any other gene. There is simply nothing in genetics that dictates that the result of two non allelic genes can not give an intermediate phenotype.

EDITOR:

You are correct about the solid self scenario. However, there are lines of birds and some of us have maintained such lines to use in research. The greatest possibility of a pied hiding is, I believe, slimmer than having a mutant crop up. The incidence of a white feather in the wing or tail are good examples. The use of gazzi over white is one of expedience. What you say about the chance of being more than one allele such as albino that produces the same effect is true of many pied factors and even of color factors. I used to devil Doc. Hollander when he would say "always mate to wild type blue" by saying "which blue is wildtype?" With any color including pied, there may be and probably are several ways to get it gene-wise.

You state that first thing to do is make a pied homozygote. That is what you are working with. All the pied whites are homozygous. (Here I am talking about the

pattern whites Swallow, gazzi, Baldhead, etc.) Crossing them to solid self birds will tell you whether that phenotype is produced by one or more pied factors and if they are recessive or dominant.

You state that you would have to test each one and you are right. That is what makes proving allelism or non-allelism so difficult.

You state that sometimes a dominant gene is not even dominant. And again you are correct. It can be dominant, partially dominant, or recessive depending upon the genome with which it is associated. A good example is the whitewing of the Archangels (a recessive that expresses only on Ash), or the whiteside of the recessive whiteside (it is a partial dominant that only expressed on rec. red), or the Toy Stencil which produces the beautiful white C areas (Ts is a combination of two dominants and a recessive).

Who said genetic research was easy?

EDITOR:

When it comes to research on whites, sometimes it is good to look at other animals for ideas. For example, the spotting gene of Holstein or Ayrshire Cattle where the variation is due not to penetrance per se, but to multiple modifying genes. This gene is very similar to what we have in splashed birds. The gene is recessive but is modified to produce a range from nearly solid color to nearly solid white.

In other research into spotting on a white ground such as in the Dalmatian dog, and in some cattle and swine the amount of spotting can be the influence of porphyria, which results from the abnormality of metabolism of uric acid.

GARY YOUNG WRITES: 19nov'04

I am still working with reduced on gimpel bronze, but moved it over to Catalonians. What has been your experience with spread reduced? I get a very nice silver body and pseudo stenciled pattern on the wingshield. The addition of gimpel bronze seems to provide more intensity and iridescence to the silver color – spread covers the copper. Haven't tried the ash-red angle. [Archangel bronze]

Here is a picture of a spread reduced gimpel. It breeds true without much variation. [Gimpel is a pattern of two or three colors.]



Spread reduced

[Nice pictures, Gary]



non-spread reduced (rosyneck)

DAVID LONGSETH EMAILS:

Thought I'd throw in a few shots to show the variability of the expression of StQ birds. All of these are grandbabies of the one cock – he was St+//+br, CT//c. [If you have a hard time reading this it says “wild type at the Almond locus linked to blue hetero with wild type linked to br; heterozygous for T-pattern and barless” I know that is NOT what he meant. Since he is talking about Qualmond; he must have meant St*Q +// +b.]

305-04 is a very light grey with blue (not black) flecks. He is out of a brown hen but the only brown showing is 3 or 4 feathers on the back of the neck. 319-04 is out of a Kite hen and looks closer to Almond than the usual Qualmond. 357-04 is a bar (+//c). The last one is just Qualmond with no special modifiers.



305-04 barless Qualmond



319-04 T-pat ? Qualmond



357-04 barred Qualmond?



T-pat Qualmond

EDITOR:

Nice pictures David. The barred one looks more like Faded recessive opal.

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 The biggest troublemaker you'll probably ever have to deal with, watches you from your mirror every morning.

Good judgment comes from experience and a lot of that comes from bad judgment.

Letting the cat out of the bag is a whole lot easier than putting it back in.

If you get to thinking that you are a person of some influence, try ordering someone else's dog around.

Live simply. Love generously. Care deeply. Speak kindly. Leave the rest to God.

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DAVID WRITES AGAIN:

Here's some of the hens from this year, all from the same cock.
314 is Qualmond brown and reduced.
315 is Qualmond blue and reduced.
367 looks brown but has black flecks. Very close to color of her father.
321 is an interesting combination. Looks to have both Kite and e from the mother and might also have inherited a bronze from the father. Has a little mosaic patch on the chest. [upper crop?]



314 Qualmond brown reduced



315 Qualmond blue reduced



367 Qualmond



321 Qualmond with e

STEVE SOUZA WRITES:

Just so folks don't think all Qualmonds are dark and color filled. Here's a brown bar Qualmond hen het recessive red ($St^*Qb//++$; $e//+$) for comparison. You will note there are occasional "black" flecks, the result of the extreme instability of the St



family of genes.

STEVE SOUZA WRITES: EXCERPTS

Here are a couple of pictures of a Spread Ash bar het blue at 4 years and at 6 years. He got darker and scruffier with age.



4 year old



same bird at 6 years old

EDITOR:

The darkness may or may not be the result of modifiers. I had a similar colored bird that was like the 4yr picture when it was 1 yr old. The next year it was very dark, much darker than your 6yr shot. The following year it molted back to the lighter color and stayed lighter with maybe a slight darkening as it aged.

DARREL (HOGEYE) FERGUSON WRITES 21nov'04

What is the term for this type of grizzle? Markings on the tail did not appear until after the juvenile molt. The bird is muffed and those feathers are also being grizzled. No other white appears on this black bird.

EDITOR:

This is a very interesting coloration. It looks like what we are calling (in 2006) flash grizzle. Thanks for the pictures.

DARREL WRITES: 22nov'04 excerpts

The one common denominator [about where did it come from] seems to be a dun tail-marked hen I bought several years ago. (Colored tail feathers are normal). The first one I produced was directly from her and she is the mother or grandmother to the others (no brother-sister matings). Since fs is recessive it would have had to exist

here prior to the Tail-marks arrival. I have never seen evidence of this in the past 25 years. [Darrel it is not frill stencil.]

MICHAEL SPADONI WRITES: excerpts

Here are a few more of Darrel's genetic marvels.



EDITOR

These are probably more of the same. They are not frill stencil nor do they appear to be Toy Stencil. The markings are fuzzier than the neat ones on page 329 but then these are not Spread.

ALBINAS WRITES:

What is the genotype of this youngster? And it's parents?

My opinion is hen – Shield pied, T-pattern, Ash red dilute (or recessive red dilute)?

Cock – Blue Spread, Grizzle (Tiger Grizzle?)

Young – hetero Ash red/blue, Spread, Grizzle and shield pied. Sooty???

But why do red and black express on the same feather? Because of hetero Ash red/Blue Spread, or because of Grizzle?



Parents: hen

cock



young

EDITOR

Albinas, the hen is recessive yellow. The cock is blue or may be Spread Ash red probably non-spread Blue hetero. It is evidently not Grizzle or Tiger Grizzle. The young bird is what we would call a Bronze Saddle. Not much more can be determined without further information or test mating. Bronze is the combination of red and black on the same feather.