

A Study of White Horses - Not What They Seem

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by Lesli Kathman

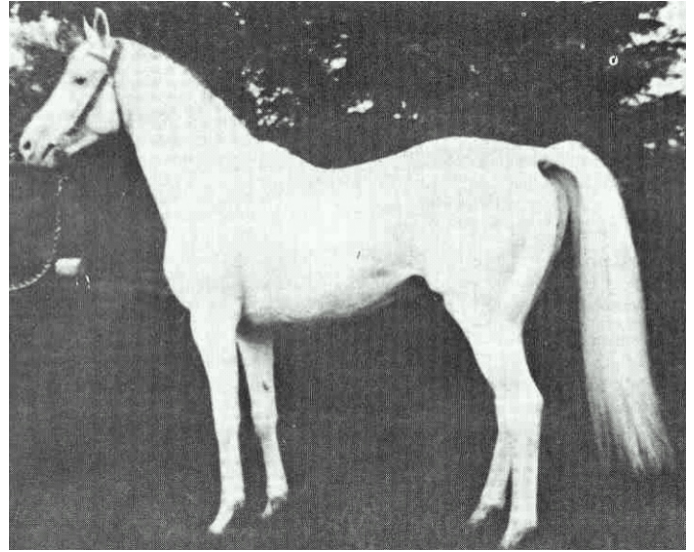
One of the most confusing names for color used by horsemen is "white". In most cases, horses that are called white are actually older grey horses; in these cases the gradual lightening has progressed far enough that the horse appears totally white. However, the dark skin present at birth will remain, and will be visible where the hair is sparse, such as the muzzle, inner ears, and genitals. It is more accurate to call these horses white-greys, although many registries have registered them as "white" in the past, especially when registering older animals that had already greyed out.

Another color frequently called white -- or even "albino," which is also inaccurate -- is cremello. These horses carry two cream (palomino/buckskin) genes, and have pink skin and blue eyes, but their coat is actually a very pale cream, and not a true white. This subtle color difference is noticeable on cremellos that have white markings.

Unlike white-greys and cremellos, true whites have pink skin and a pure white coat. They are also most often dark-eyed, though some rare individuals are born with one, or even two, blue eyes. And unlike greys, they are born white and stay white.

Some scientists have theorized that these horses are the product of a single gene, W, or "Dominant White". Because early breeders of American White horses reported that their stallions could throw the color 50% of the time, white horses were thought to be dominant. And since no stallion had proven to produce 100% color, it was also theorized that the gene was lethal in the homozygous form, much like true (dark-headed) roans where homozygotes are not viable, causing the mare to miscarry early in the pregnancy. The only problem with this theory is that in many breeds, horses have been born white to otherwise normal-colored parents. These horses are sometimes called "spontaneous whites," because there is rarely any clue that they might occur until they surprise an unsuspecting breeder. In most cases, however, a look into the horse's background can explain the unusual color.

After studying spontaneous whites that have occurred in a variety of breeds, it is this author's belief that these horses are not actually whites, but pintos. More specifically, they are sabinos. Unlike the frame overo gene, which is thought to cause all-white foals that die shortly after birth ("lethal whites"), sabinos can be born entirely white and perfectly healthy.



Monte Blanc II, born in France in 1963, is probably one of the best-known "white" Thoroughbreds. He produced both white and sabino-patterned foals.

In the first eight volumes of the Tennessee Walking Horse stud books (1935-1947), these white born foals were relatively common (several hundred were registered). At that time, most Tennessee Walkers were sabinos. Conservatively marked black was then rare in the breed; news articles of the day commented on Midnight Sun's 'unusual' color. White foals were usually products of sabino-to-sabino breedings, and they in turn produced sabino-patterned offspring as well.

While this connection between white-born foals and sabinos is pretty obvious in Tennessee Walking Horses, in other breeds the connection can be harder to see. This is because in Walking Horses, the sabino pattern shows up on all base colors equally. No one color is more likely to display the flashy markings that characterize sabinos. This is not true of some of the other breeds where white-borns have been recorded, such as the Arabian and Thoroughbred. In these breeds, the vast majority of "high white" (sabino) horses are chestnut, enough so that blazes, stockings, and belly sports are often considered characteristics of chestnut horses (or at least, chestnut horses of particular strains). Which is actually the case; the gene for chestnut and the gene(s) for sabino have become linked. This is not unheard of -- a modifying gene becoming "tied" to one of the base colors. In certain draft breeds, the roan gene is linked to bay, making it statistically more likely to get a roan if the foal is also bay, and much less likely if he is born chestnut. Links like this aren't absolute; a chestnut roan (or bay sabino) isn't impossible, just much less common. And how

uncommon would depend on how strongly the two genes were linked.

My personal belief is that in breeds like the Arabian, the link is quite strong. Strong enough that it only skews the statistics (making far more chestnuts sabino than bays or blacks, when it would otherwise be roughly equal), but it also causes the sabino gene to "follow" the chestnut color. If the chestnut color, being recessive, is "hidden," so is the sabino pattern. This means that sabino, which is a dominant trait, behaves as a recessive when linked in this way to chestnut. So a bay horse with almost no markings can be carrying a recessive gene, and tagging along with that chestnut is the tendency for "high white," which is the sabino gene. And just as two bays can have a chestnut foal, under these circumstances, they can have a chestnut sabino foal. And sometimes instead of being a chestnut with high white and body spots, that sabino will simply be born white.

This is not to say that dominant white horses do not exist, but I am personally skeptical, having never found one I could prove wasn't more likely a sabino white. A great many of the famous spontaneous whites over the years have pedigrees that trace to chestnut sabinos, and many breeders who tried to breed for the color were frustrated by the difficulty in ensuring a white foal -- though wildly patterned sabinos did frequently result. Of course, for us as pedigree assigners, the reality that these horses were pintos is probably more useful, since we can pick and choose whether they produce white or pinto horses for us, and the ability of one horse to sire both is quite useful for us! We just have to be careful that we do not use a famous white-born stallion (or mare) in a pedigree for a dominant white horse, and have them produce all white foals, when the real horse that we are using actually bred as a sabino.

Instances Of "Spontaneous" Whites

Thoroughbred

Some of the best known spontaneous whites have occurred in the Thoroughbred, where they are often well publicized because they are considered a novelty. Of course, this situation might be different if there was a widespread awareness that they were pintos (popularly regarded as proof as "inferior" or outside breeding in blooded horses), but most breeders have not called attention to their white horses' pinto-patterned offspring so much as when they reproduce another white. So they enjoy the mystique of being rare "albinos".

The first recorded white Thoroughbred that I am aware of is Woher?, a filly foaled in 1925 in Germany by Pergolese out of Lonja. Although called white, a photo of her shows dark ears and foretop, as well as dark along her topline and tail. Woher? was from two non-greys, so could not have been grey.

Some of the most famous white Thoroughbreds were all born in the same year -- 1963. The first of these was Mount Blanc II, foaled in France. Mount Blanc II has often been called a dominant white, because he had white offspring that have appeared in articles. But he also produced chestnuts that were clearly sabinos, making it quite likely that he was a sabino.

Mount Blanc II, 1963 white Thoroughbred stallion

Murghab	Arco (Singapore x Archimadia)
	Musa (La Capuchin x Muci)
Tharsine	Tharsis (Plassy x Terpsichore)
	Niphobe (Nino x Phoebe)

The other two were White Beauty and War Colors, both foaled in Kentucky on the same farm (Patchen Wilkes) by the same sire (Ky Colonel). White Beauty was raced with some success, and later went on to produce six foals. Of those foals, two were registered as "roans". Since White Beauty could not be a grey (her sire was chestnut and her dam bay), and the sires involved were bays, the foals could not be greys (as so many "roan" Thoroughbreds are), so they were likely sabinos, which are often called roan by horsemen. Another foal was "white with irregular patches of solid color"-- a good description of a sabino. The remaining three foals were a grey, a bay, and a chestnut. Although none of her living foals was white (she died foaling her last foal, who was white and who also died), her granddaughter Precious Beauty was white, and created quite a sensation when she also produced a white foal -- who appears with her in a famous photo used by Colorful Images on their address labels. However, Precious Beauty's two previous foals were a bay and a "roan".

White Beauty, 1963 white Thoroughbred mare

Ky Colonel	Balladier Black (Black Toney x Blue Warbler)
	Mistrellette (*Royal Minstrel x Bannerette)
Filly O'Mine	Holdall (Bull Dog x Miss Brief)
	Transour (Transmute x Sourdine)

Another clue that the sabino gene was probably involved comes from White Beauty's half-brother War Colors. War Colors, although often referred to as white, actually had chestnut ears, and "chestnut spots here and there." Photos of War Colors show a pattern that most pinto breeders would call a medicine hat. Unfortunately War Colors died as a three year old, leaving no offspring.

In 1966, the white filly Glacial was foaled in Australia. Her sire was grey, and her dam was described as "bay with a lot of white in her coat". The same mare also produced a foal in 1970 that is registered as "bay or

white". Glacial herself produced a colt, Kaleben, that was originally registered as white, but this was later changed to "white-bay" (his color has also been described as "weird"). Glacial also produced a full sister to Kaleben that was registered as a grey, which she could not have been since the sire was bay. She was also described as being a "strange color".

Finally there is Not Quite White, foaled in 1989. As her name implies, she isn't entirely white, but rather has pale chestnut flecking on her shoulders, ears, and hindquarters. Her sire, Northjet, had a belly spot and was known for throwing a lot of white, while her dam was a solid bay. She produced a wildly patterned chestnut colt in 1992.

Arabians

Many historians on the breed have noted that there were pink-skinned white horses in the desert. In the mid-1800s, Sheik Fatouh el-Badjirmi wrote a treatise on "descriptions of praised horses", and named fifty-two different colors. Among these were the al ashab al qortasi, which was described as being white "so intense it was not mixed with any other color". The skin was said to be white (pink), and that he could have two blue eyes or just one. If he had dark eyes, he was called ashab akhal. In a letter dated April of 1881, Lady Ann Blunt writes of seeing a bay mare with a white foal, both of which were purebred Arabians.

There was also a white mare imported in the 1930s by Arthur Ball. She had pink skin and dark eyes and was taken from the desert, but the AHCA would not register her (whether due to problems with her paper and her color, it is not known). Her name was Sea Foam, and she



When sabino was prevalent in the Walking Horse breed, there was a high percentage of white horses. Pictured here is the 1954 World Grand Champion White Star.

went on to become an influential mare in the American White breeding programs of Karen Wales (Westwind). Sea Foam did produce whites when bred to purebred Arabians, but in a personal conversation with Ms. Wales, I was told that whites were "very difficult" to breed for, and that they did not produce anything like 50%, which would be expected if the horses were indeed Dominant White.

More recently, a white stallion -- Boomori Simply Stunning -- was registered in Australia. Like many white horses, he wasn't completely white at birth (he had chestnut on the ears and poll) although most people considered him white. His first owner claimed that he shed out entirely white, but more recently he has developed chestnut "ticking" in his coat and has chestnut hairs in his tail. He is registered as a sabino, which is probably quite accurate. As of 1994, he had produced five white foals, but three of them displayed birth defects and were euthanized. Of the remaining two, one was born with chestnut on the poll and ears, and the other was white with chestnut on the poll, ears, and body. Both fillies shed out mostly white, and have dark eyes. Simply Stunning's 100% color production rate is highly unusual, but the numbers are too small to tell how he will breed. It should be noted that Simply Stunning is 100% Crabbet -- a breeding group known to produce the high white associated with the sabino pattern.

Boomori Simply Stunning, 1989 white Arabian stallion

Chip Chase Kaiwanna	Silver Spot (Riffal x Royal Radiance)
	Kai (Rapier x Browe Anne)
Crown Jewel	Indian Jewel (Raktha x Indian Pride)
	Browne Anne (Electric Silver x Riffalani)

American Shetlands

The breeding program of Stan Riemenschneider (Wa-Full) produced two white ponies in 1983, both of which were closely related. The first of these was Wa-Full Sweetheart, by Chip's Casey and out of Wa-Full Queen, a chestnut sabino roan. The second was Wa-Full Snowbird, who was by Wa-Full Prince Gale and out of Masters Golden Surprise. Prince Gale was a chestnut sabino roan, and Masters Golden Surprise was also the dam of Wa-Full Queen. The same breeding program also produced the white stallion Queen's King VB, but I don't know any more about him or his breeding -- from his name he may have been out of Wa-Full Queen as well. [Ed - he was unrelated to her, but was of sabino breeding.]

Draft Breeds

In 1989, a white Shire colt was born in England to Celtic What's Wanted and Beechway Gay Fashion, both bays. Unfortunately, I have no more information on him or his breeding, though the sabino pattern is certainly common in the breed.

It is even more common in Clydesdales, and a number of white foals (or nearly white) have been registered. What is even more surprising is that there are not more whites registered, since almost all Clydesdales are sabino patterned to some degree (and many are quite extreme). In Walking Horses, which were also predominantly sabino in the 1930s and 1940s, there were several hundred white horses registered. Whether Clydesdales are not producing whites, or whether breeders find them undesirable and do not claim or register them, is not known.

Tennessee Walking Horses

As stated before, several hundred white horses were registered in the first seven volumes of the stud books, when the breed was predominantly sabino. It wasn't unusual then to see stallion ads that proclaimed a stallion's ability to produce mostly "roan or white" colts. There was even a white World Grand Champion in 1954, Garnier's White Star, who was also one of the few mares to even achieve the title. Eventually the fashion changed, and blacks and unmarked bays became popular, and many of the roan (sabino) lines were lost. Today the color is making a comeback with the offspring of 1981 WGC The Pusher, who is a black sabino, and occasional white horses are being seen again.

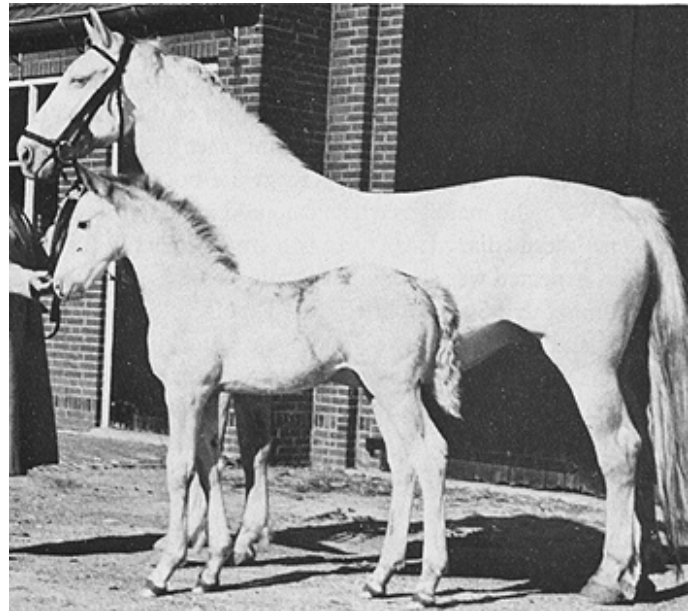
Garnier's White Star, 1949 white Walking Horse mare

Sir <i>MauGray</i>	Wilson's Allen (<i>Roan Allen</i> x Birdie Messick)
	<i>Maude Grey</i> (<i>Roan Allen</i> x Minnie Black)
Crain's Merry Lady	<i>Merry Boy</i> (<i>Roan Allen</i> x Merry Legs)
	Beach's Black Beauty (Trouble x Molly Barron)

The known sabinos in White Star's pedigree have been italicized. Although the Walking Horse is often cited by geneticists as a breed that contains Dominant Whites, I have yet to find a white Walking Horse that wasn't the product of sabino breeding and that didn't breed as a sabino.

Warmbloods

The sabino gene was quite common in the Gelderlander (with the exception of the Friesian, most of the Dutch horses are quite colorful), and there have been at least two white foals in the Gelderlander. The first was born in the 1920s by the stallion Colonel ("ticked chestnut with four socks") and out of the sabino mare Dartha, but I do not have the foal's name nor do I know if it was registered. More recently, there was the mare Sneeuw witje (1961). She was mated to solid colored stallions, and produced three white foals, one "roan" and two solid foals. There have been other Dutch white-borns, which are pictured in Wiersma's *Het Paard in Zijn Kleurenrijksdoom*. Unfortunately, while I have a copy of this book, I cannot translate the Dutch.



The Dutch mare Sneeuw witje, with her nearly white foal. Notice the darker areas on the foal's foretop and topline so typical of extremely marked sabinos.

Famous "White" Horses That Weren't

There have also been several famous white horses that weren't white at all, sabino white or otherwise. In most cases, these horses were just misidentified, but there were usually circumstances that did make it easier to mistake their true color.

The first of these is MS Czarthan, an Arabian stallion foaled in 1967. He was born white, but had dark skin by several accounts (in photos he does appear pink-skinned, but these can be misleading). He was by Uson and out of Rosanka, which were both grey, and he himself sired several grey foals from non-grey mares, so it was clear that he did have the greying gene. Some have theorized that for him the greying process was accelerated, so that he effectively "greyed in utero". It should be noted that while he may not have been a white horse (or sabino white), it would be possible for a sabino white to also be a genetic grey, since sabino whites are simply pintos that are "all marking". The dark areas that would normally exist on a pinto aren't visible, or are very minimal, so determining the base color would be difficult. If the horse had the grey gene as well, those minimal dark areas would simply fade away with time, leaving no evidence that they were dark, or that they greyed out!

Another famous white horse was the Morgan stallion Chingadero. In a detailed article his breeding was published in the *Morgan Horse* in February 1988. Registered as white, his breeding, and the color of his offspring, indicate that he was actually a perlino. His dam, Haager, was a buckskin. His sire, Ketchum, was listed as chestnut, but he produced seven horses -- three black, two palomino, one buckskin and Chingadero --

making it likely he was misregistered and was actually a palomino. Ketchum's dam was chestnut, and his sire was black, and it is through that black sire that it is thought that he inherited the palomino color, since black can mask the palomino gene. Chingadero himself produced ninety-two black foals, four palominos, and thirty-one buckskins. The fact that he produced buckskins from chestnut mares indicates that he was a perlino (bay) rather than a cremello (chestnut). He did not produce any white (or pinto) offspring.

The white Connemara stallion Marconi was also a perlino. Although there is a great deal of prejudice against "white" Connemaras now, in 1957 he won the prestigious Carew Cup as a yearling before being exported to the United States. He was blue-eyed, and his sire was the buckskin stallion Mac Dara. His dam

Wireless Wave was grey, but photos show the mare with a very greyed-out body with almost black points, which is quite typical of buckskins that have gone grey. Her pedigree was unrecorded, but it would not be unusual for her to have had the buckskin gene, since the color is very common in the Irish ponies.

Given the breeding records of the aforementioned "white" horses, I have come to wonder if Dominant White really does exist. But it is clear that even if it does, the majority of white-born horses are probably sabino whites.

If you have more information on any of the horses mentioned in this article, or other white-borns, please contact the author. Lesli Kathman, 4700 Lone Tree Ct., Charlotte, NC 28269 or <leslikathman@earthlink.net>.