The Auburn (or Red) Java was mentioned in early chicken literature and it seems its greatest claim to fame was being one of the parent breeds of the Rhode Island Red. Janet Vorwald Dohner in an article dated July 2010 in “Mother Earth News” states: “The Rhode Island Red was developed not by fanciers but by poultry farmers in the area of Little Compton, Rhode Island beginning about 1830. The Rhode Island Red is widely considered to be the most successful dual-purpose breed in North America. Because of its good production and other useful traits, the Rhode Island Red was one of the most successful and widespread farm flock birds for many years.”

In 1856, John C. Bennett, M.D. wrote about Auburns in “The Poultry Book.” “The Great Java fowl is seldom seen in this country in its purity; excellent specimens, however, may be seen at Mr. Charles Burton’s, Plymouth, or at Mr. E. T. Packard’s, East Bridgewater, which he purchased in New York as “Malays.” The pair is now one year old, and the cock weighs ten pounds, the pullet nine pounds and a quarter. These, like all other pure Java fowls, are of black or dark auburn color, with very large black legs, single comb and wattles. They are good layers, and their eggs are very large and well-flavored. Their gait is slow and majestic. They are, in fact, amongst the most valuable fowls in the country, and are frequently described in the books as “Spanish fowls,” which nothing is more erroneous. They are as distinctly an original breed as the pure-blooded Great Malay, and possess about the same qualities as to excellence, but falling rather short of them as to beauty. This, however, is a matter of taste, and some consider the pure Java superior to all other large fowls, so far as beauty is concerned. Their plumage is decidedly rich.” Craig Russell, President of the Society for the Preservation of Poultry Antiquities and probably the most knowledgeable poultry historian living today, commented on this quote saying “Dr. Bennett is not the only person to mention dark auburn Javas. The strain was never standardized but was used in the development of the Rhode Island Red.”
In Jim Ward’s recent article, “Early Java History,” an 1857 publication mentioned a lady near Philadelphia who had some choice foreign poultry for many years and had a variety that she called Java that were almost all colors.

Thomas Fletcher McGrew in “The Book of Poultry” published in 1921 had this to say about the origin of the Rhode Island Red: “The Rhode Island Red fowls originated in the farming districts of Rhode Island, near New Bedford, Little Compton, and Westport. Fowls of many kinds were brought to that locality by captains of sailing ships and were freely distributed among the farms.... Many of these were Asiatic fowls strong in black-red plumage color; among them were Shanghais, which had almost red plumage; Great Malays, which had red plumage; and Javas, as they were called, which also had red plumage. As attention was directed to these fowls, they were gradually added to the stock of all the farms....”

Mr. McGrew continues with the origin of the Rose-Comb Rhode Island Red: “In the catalog of the Rhode Island Red Club of America it is stated that as early as 1860 there existed in and about New Bedford, Rhode Island, fowls called the Red Java which had been brought by whaling ships from Java, and that they had red plumage and rose combs. Both Males and females were dark red.... From these fowls it is claimed that the present type of Rose-Comb Rhode Island Red fowls descended.”

Another old source mentions that in the Black Javas there was a tendency to breed mahogany-colored neck, and red on hackle and wing. The evidence suggests that there were several variations of Javas that tended toward the auburn/red color – some showing more red than others. These were most likely the ones used in the development of the Rhode Island Red. I do not believe that these early Red Javas that Mr. McGrew referred to were in fact a self red chicken. A quick sight seeing trip through the Standard of Perfection will reveal that almost all red varieties have some black trim. I see no reason why the early Red Java would be an exception. In addition, by comparing the body types (rectangular shape) of the Java and Rhode Island Red a strong relationship is revealed. Refer to Jim Ward’s recent article “Culling Javas II – Type” for excellent body type illustrations. They certainly suggest that the Red Java – ancestor of the Rhode Island Red – was not far removed from the Black Java.

Several other early sources document the Auburn Java. Unfortunately the Auburn was supplanted by the very popular Rhode Island Red and by the 1870s the Auburn Java had disappeared into the sunset and was presumed extinct.

However, with the rising sun on September 25, 2003, over 120 years later a chick with a red head and black body hatched from Garfield Farm’s Black Java eggs at the Museum of Science and Industry in Chicago.

Historically, the Black Java has been the most popular Java variety and was Garfield Farm’s choice to fit into its 1840s farm museum time period. In the mid-1980s Garfield Farm acquired a small flock of Black Javas from Urch/Turnland Poultry in Owatonna,
Minnesota. The Duane Urch flock was acquired from Florida resident Howard Tallman in the late 1950s or early 60s and has been closed ever since. To insure that these Black Javas were indeed pure, Garfield Farm had genetic testing done at the University of Iowa. Though a small number of birds were tested the results revealed a definite possibility that all of the Black Javas studied were a purebred line.

In 1994 Garfield Farm, wanting to do more to insure the survival of the now very rare Black Java, launched its conservation breeding program. The Museum of Science and Industry in Chicago offered to incubate and hatch the farm’s eggs in its facility. Tim Christakos, senior exhibit specialist of the chick hatchery had this to say: “When I first learned of their work with the Black Javas, I knew the museum’s hatchery could provide the perfect means for hatching this almost extinct breed.” Tim and MSI were the perfect match for this conservation effort, hatching thousands of chicks.

Over 100 years of selective breeding to perfect the black plumage of the Black Java could certainly suppress most any recessive color gene. That is until Garfield Farm and MSI began mass hatchings of the Blacks, which allowed these very recessive genes to reoccur. Fortunately a male chick with Auburn highlights hatched in March of 2004. The personnel at Garfield Farm and MSI realized they had made an astounding discovery and Auburn chicks were seen as very special and worthy of preservation. This rooster and the chick, a female, hatched the previous September were used to produce more chicks with the Auburn color or at least the Auburn gene. In addition more Aubrons hatched sporadically at MSI. It took nine years of mass hatchings for the Auburn color to resurface. That was a tough code to crack and I will explain how it happened later.

I became involved with the Aubrons on February 4, 2008 when I acquired one rooster and three hens. 2013 will mark 10 years since the first Auburn emerged and five years that I have been working on them. My first rooster had fairly good color, even though I was not sure at that point what “good color” was as these were the first Aubrons I had ever seen. The hens showed quite of bit of black on their bodies making it difficult to determine what color/pattern they really were. I was on a fast learning curve to know as much as I could about Javas and their colors. But from the very beginning, I felt that if the excess black could be removed from the hens we would have a magnificent bird.

In 2008 I hatched as many chicks as I could from my 3 hens. By 2009 I was hatching chicks as well as sending eggs to the University of Illinois. The U of I was supplying hatching eggs to the local schools. After the chicks hatched they were returned to me – what a deal! Then in May of 2009 I got a call from Tim at MSI asking if I would be interested in all of their Aubrons. Of course I was thrilled to add more Aubrons to my flock to deepen my gene pool. On May 17 at Garfield’s Rare Breeds Show I acquired over 60 birds. My numbers were quickly increasing. But it didn’t end there – in July, Tim and I met half way between Chicago and my farm and I received another 65 chicks. Then in April of 2010 another 61 chicks from Tim came to my farm.
A month later, at the 2010 Rare Breeds Show I chose more chicks to bring back to my farm. By this time I could tell by the chick down the ones that would likely show good adult color, so those were the ones I selected. Included in this group were “Rusty” and “Lucy.” The Kohl Children’s Museum in Chicago hatched three Auburns in April in their annual “Eggs to Chicks” exhibit. This was phenomenal considering the Children’s Museum incubates only 15 eggs a week. The press release, in part, reads: “Rusty and Lucy will stay on display at Kohl Children’s Museum until April 19 at which point they will be shipped to Behl Farm in Rochester, IL, which is dedicated to the repopulation of the Auburn Java species. Behl Farm began a partnership with MSI in May 2009 to repopulate the Auburn breed of Java chicks....” The third chick, Scarlet, was to remain on display at Kohl. I have no record of her beyond that point.

At the 2011 Rare Breeds Show I acquired only a few chicks and none in 2012. I had essentially closed my flock. I plan to bring Auburns for display and sale at Garfield Farm’s 2013 Rare Breeds Show on Sunday, May 19, 2013. Try to attend, you are assured a good time.

Obviously I had enough birds to do some serious selective breeding as well as strict culling. And that is what I have done for these several years and though I have struggled with many variations of color – usually too much black — each year seems to get better as far as having consistent color and pattern. Progress is definitely being made. By selecting individuals with lesser amounts of black I was able to determine what seemed to be the gold spangled color/pattern. The Hamburg sets the standard for this pattern. My knowledge of chicken color genetics was certainly limited so I was on another learning curve to sort out the color genetics involved in making the gold spangled pattern. I had a copy of Fred Jeffrey’s book and I found some information and misinformation about color genetics on the internet. It was not until I received a copy of Sigrid van Dort’s book, “Genetics of Chicken Colours – the Basics” that I began to make progress in this area. I have a copy of her 2011 second revised edition. Most of the information presented here will be from van Dort’s book unless otherwise noted and presented the way I understand it.

The first group of genes that we are involved with are called the Color Distribution Genes and include those of the “e-series.” They include E (Extended Black), ER (Birchen), e+ (Duckwing), eb (Brown), and eWh (Wheated). Of course, e+ (Duckwing) is the basis for the Red Jungle Fowl that all other genes are compared to and are mutations of. Most black chickens including Black Javas are on the E (Extended Black) e-series. But it takes more than just E/E to make a completely black chicken. For the Standard Color, black with a beetle green sheen is desired. This sheen is affected by the presence of additional black enhancers, usually Ml (Melanotic) and “rb.” Ml (Melanotic) is a known genetic black enhancer but alone is not capable of making a self-black chicken. More black enhancers (melanizers) are necessary. At this point “rb” comes into play. “rb” (recessive black) is the name for a group of melanizing (black enhancing) recessive genes. According to van Dort, when present in homozygous form “rb” can produce completely black birds. When heterozygous, color is usually seen on the head, hackle and shoulders of both hens and roosters. “rb” is a group of genes that melanizes the feathers when there are other genes present. Not all melanizers are known so they are given the catchall name of “rb” (recessive blacks). Obviously not everything is known about genes for chicken colors. “rb” has been known to scientists for a long time and is often used by semi-professionals and breeders all over the world. Fred Jeffrey used the term “hypothetical ebonies” for unknown eumelanin enhancers. (Mr. Jeffrey’s book, “Bantam Chickens” was published in the early 1970s and his second addition had at least seven printings through the late 1990s. Other scientists, Punnett 1957 and Smyth 1976, unable to determine the genetic basis for certain “recessive black” lines suggest the existence of more than one eumelanin intensifying mutation.) “rb” can also be guilty of producing too much black and I think this is where the problem was with many early present day Auburns that were too dark. In my flock of Auburns, selecting away from “rb” seemed to be the key to controlling it and hopefully someday eliminating it. Interestingly, in my flock of Auburns, the ones with black adult plumage were a “dull” black. Black Java breeders use “rb” to produce the beautiful beetle green sheen. Perhaps “rb” is expressed differently depending on its e-series basis.

Chickens that show the spectacular patterns cannot be “made” on Extended E. They are usually on eb (Brown) and it is my working assumption that the Auburn is on the e-series eb (Brown). I think this was accomplished only due to the massive amounts of Black Java chicks that were hatched by MSI. Apparently a few of the Blacks were heterozygous for Extended Black. And obviously very few as it took nine years for the Auburn color to reappear. So being heterozygous for the e-series, namely E/eb, 25% of the offspring
from the E/eb parents should give us eb/eb. And that is when we hit the jackpot. eb/eb allows the pattern genes to be expressed. Now we are at the point where multiple laced, double laced, single laced, autosomal barring and spangling can be seen with the right gene combinations. Many of these patterns were “locked-up” in the Blacks.

Now that we have the correct e-series, eb/eb (Brown), we can see how the Auburn gene works. The Auburn gene is actually several genes that work in concert to produce the gold spangled pattern/color. The second group of genes we are involved with is called the Uniform Changing Genes. There are several of them, but we are not changing the uniform color; it will remain as the original Red Jungle Fowl color of gold, symbolized as s+/s+. The “+” merely indicates that it is the “wild” or “original” color of the Jungle Fowl. Thus we have gold as the uniform color for the Auburns.

Now comes the trio of genes that produce spangling: Pg (Pattern gene), Ml (Melanotic) and Db (Dark brown). van Dort adds that “because they are located closely together, it’s found they are often inherited together. In other words, the ‘Famous Trio’ responsible for spangling is ‘attached’ by inheritance.”

Pg (Pattern gene) is one of three genes that make up a group known as the Pattern Gene Group and those are Pg (Pattern gene), B (Barred or Cuckoo) and mo (Mottled). These three Pattern Genes are the only genes responsible for making patterns. All the patterns of the standard color varieties can be made with these. These genes may have different effects on different breeds and this is due to selection. It’s all about selection to produce and maintain the most striking and clean patterns. It is only Pg (Pattern gene) in this group that is involved in making the Auburn Java color/pattern which is gold spangling. Besides making spangling, Pg is capable of making penciled (multiple laced, partridge, concentric penciling), single laced, double laced and autosomal barred with only the help of one or two other genes. All of these patterns consist of black markings on a ground color of gold/red (s+).

An eb hen on s+ (gold) is self brown colored with a peppering of black pigment which appears as stippling or very course penciling. The eb hen is perfect for Pg to act on as her body has the same all over ground color. The most beautiful patterns are made with Pg on an eb (Brown) basis as Pg reorganizes the black pigment. eb/eb, Pg/Pg produce penciled (aka multiple laced, partridge, concentric penciling). The Partridge Plymouth Rock is a typical example of this pattern. Note that this is seen in the female only as male hormones produce large black areas giving a “wild-type” color in the male known as Black Breasted Red. Usually double matings are used to produce exhibition stock with this pattern. The beautiful show birds have undergone many years of selection. (I have seen this pattern in a few birds from the Garfield Black Javas.)

If Ml (Melanotic), a black enhancer, is added to the above genetics then the double laced pattern is produced: eb/eb, Pg/Pg, Ml/Ml. Ml gives Pg more black to produce a darker pattern. The Barnevelder is an example of double lacing on eb.

Adding Co (Columbian) to the above mix gives us eb, Co, Pg, Ml. Co is known for restricting black to the outer ends of the chicken, and must be homozygous to produce the best specimens. This combination of genes will give us the laced (single laced) varieties like the Golden Laced Wyandotte. This is a variety I have not seen in the Auburn stock. Sometimes the Auburns will show a “rough lacing” on their backs, but I feel that is merely “extra” black that didn’t get reorganized properly. (Co with only eb and s+ will give the typical Columbian pattern. The perfect Columbian is the result of 100 years of selection.) However, Co is not added to our genetic mix to get the spangled pattern – just wanted to explain how Golden Laced happens.

Adding Db (Dark brown) to the “double laced mix” gives us: eb, Pg, Ml, Db. Db (Dark brown aka ginger) has a Columbian like action. The effect of this gene is so similar to that of Co (Columbian) that they can easily be confused. The difference is that Db in pure form (Db/Db) extends the gold so much that black is restricted to the wing and tail of the rooster, making a black tailed bird on eb (Brown) based chickens. Db is responsible for the rough autosomal barring that is seen in the juvenile feathers of the Auburns. The interaction of Pg, Ml, Db on eb, s+ produces the beautiful spangling on the hen. It is seen on the breast and lower thigh feathers of the rooster (more on the rooster color later).
Returning to the penciled pattern (eb, Pg) and adding Db (Dark brown) to that we have: eb, Pg, Db which produce autosomal barring. This is seen in the Brackels and Campines. I have not seen it in the Auburns except briefly in the juvenile feathers and that seems to be merely a passing phase.

Then by adding Ml (Melanotic) we are again back to the spangling pattern of eb, Pg, Ml, Db. It is extremely important that all of these genes be in homozygous form to produce plumage with the very clear cut patterns that are seen in exhibition birds. Once again, selection is a major factor in achieving this.

In addition to the genes that produce spangling, I feel Mh (Mahogany) is also present. Again van Dort states that you suspect Mh (Mahogany) is present in the Gold Spangled pattern because of the rich golden ground color. Mahogany is an inhibitor of black. Its action on the feather is to push black to the tip of the feather, helping to form a spangle. Mh also gives red on the shoulders, back and wingbow a deep dark color on the rooster which is very typical of the Auburn male.

My observations of the Auburns in the past five years indicate to me at this time that their color genetics are: eb/eb, s+/s+, Db/Db, Ml/Ml, Pg/Pg, Mh/Mh. Keep in mind, I am not a geneticist, but have come to this conclusion be reading the available information and applying it to what I have seen in the Auburns.

Accounts of the historic Auburn indicate some variation in its color and pattern. Probably due in part to the fact that production birds were being selected rather than exhibition birds and perhaps the knowledge of genetics was limited. Possibly many of genes of the early birds were heterozygous rather than in pure form which could certainly result in variations. With a better understanding of how the genetics work we can select for and concentrate the genes that are necessary to produce the current Auburn colors.