

# The Cream Legbar Club's History of the Breed by Curtis Hale

Research by Curtis Hale, Kestlyn Penley, and Anne Norman

## Chapter 1: Contributors to the Creation of the Cream Legbar



The creation of the Cream Legbar centered around three men: Clarence Elliott, R.C. Punnett, and Michael Pease. Clarence Elliott was a British Horticulturist. In 1927 he traveled to South America on an expedition to collect exotic plants and animals. His return to England in 1928 brought a ship full of animals that largely ended up in the London Zoo. A small group of blue egg laying chickens from Chile was given to R.C. Punnett, who was the director of the Cambridge University Breeding Program.

The Cambridge University Breeding Program was established by an endowment from an anonymous donor believed to be former Prime Minister Arthur Balfour. It specified that the director of the program would be the Arthur Balfour Professor of Genetics, whose position would be appointed by the current Prime Minister of Great Britain, making them the head of national genetic research. Punnett was an innovative geneticist and was appointed to be the first Arthur Balfour Professor of Genetics. His research was well planned out and methodical. While simple in logic, his observations were detailed and well documented.

The Cream Legbar is often portrayed as a whimsical breed created for amusement, but the work of Punnett was not for leisure or diversion. Punnett was a tenured biology professor applying sound science to ground breaking genetics, funded to improve livestock quality available to British farmers and to increase their profitability. This was an era before 10,000-hens commercial laying facilities came about, so his work was focused on the smaller traditional poultry farming of his day. Michael Pease worked alongside Punnett as a member of the Cambridge University Breeding Program.

In addition to working on the Legbar breed, Punnett and Pease published papers from their research on the inheritance of feathering on the feet of chickens, the inheritance of size in chickens, the inheritance of five toes in chickens, links between broodiness and egg color in chickens, the inheritance of the henny feather pattern on cockerels, the genetics of the walnut, breda, and other comb types; pied plumage, the recessive black gene in chickens, and others as well.

After Punnett's retirement Pease carried on much of the research started by Punnett. Although the majority of their research appears to be based on chickens, they also studied rabbits, ducks, and other livestock.

## Chapter 2:

### The Cambridge Auto-sexing Chicken Breeds

Punnett and Pease's signature work at the Cambridge University Breeding Program was the genetics of sex-linked genes in poultry and a series of auto-sexing breeds of chickens which included the Legbar, Rhodebar, Brussbar, Dorbar and others.

Punnett discovered the auto-sexing ability of chickens while studying different types of barring patterns in chickens. He set up a series of crosses placing the autosomal barring of the Gold Campine on top of the sex-linked Cuckoo barring of the Plymouth Rock to form a new breed called the Cambar. The resulting breed had distinct male and female markings and colors, which would breed true every generation.

Punnett's scientifically trained mind, that was taught to search for an economical advantage from every discovery, was quick to see that auto-sexing breeds could make poultry more profitably by eliminating the need for professional vent checkers for new born chicks. At the same time he was eager to increase the 95% accuracy of vent sexing to 100% with auto-sexing breeds, and eliminate the need to keep two separate flocks to create sex-linked hybrids. He learned that any pure breed with the sex-linked cuckoo barring on top of a brown variety bird would be auto-sexing.

After completing the Cambar in 1920 he spent the rest of his career developing nearly a dozen auto-sexing breeds. These breed came to be known as the Cambridge breeds and consisted of the Dorbar from the Dorking and Barred Plymouth Rock, the Brussbar from the Brown Sussex and the Barred Plymouth Rock, the Rhodebar from Rhode Island Red and Barred Plymouth Rock, etc.

## Chapter 3:

### The Creation of the GOLD Legbar

Although the auto-sexing feature of the Cambar was advantageous in some ways, the original strains of the breed were not productive layers and therefore did not offer the economical advantage needed by the farmers of that time. Thus Punnett's second auto-sexing breed replaced the Gold Campine with a Brown Leghorn to create a new breed that was both productive in laying and auto-sexing.

In 1935 he imported a Barred Plymouth Rock Hen from Canada and mated it with a Brown Leghorn cock. In 1936 a cockerel from that crossing was mated with three Brown Leghorns that had been hatched in 1935 from eggs imported from Denmark. The Danish line was imported because they were more productive and hardier than the Brown Leghorn lines available in the UK. Silver, Black, and nonbarred birds were culled from that crossing and from the remaining brown-barred birds, a cockerel and

three hens were selected and mated in 1937. The pullets and double barred cockerels from that cross made the first generation of true Legbars.

#### Chapter 4:

##### The Creation of the Cream Legbar

In the summer of 1930 R.C. Punnett received three hens from Clarence Elliot, who brought them back home to England from Chile, at the end of his expedition to South America.

One hen died shortly after it was given to Punnett. Both remaining hens laid blue eggs. It was late in the season so Punnett was only able to successfully breed one of the hens which he crossed with a Gold Penciled Hamburg cock. The Chilean Hen was a light yellowish brown color and was crested. The cross resulted in five cockerels and two pullets of gold color with irregular penciling. In 1931 the two pullets were mated to one of their brothers.

The brother-sister crossing produced both gold birds and birds with pale creamy ground color. Although Punnett's main interest was blue egg genetics, he followed up on the creamy ground color in 1934 by crossing two of the cream colored hens with a Buff Leghorn cock. All of the offspring from those crosses were gold, but in 1935 two of the resulting cockerels and seven of the resulting pullets were crossed resulting in 113 gold offspring and 45 cream offspring. In 1936 the lightest cream birds were paired resulting in all cream with the exception of one bird. In 1936 a Brown Leghorn cock was also crossed with two of the cream colored Cream X Buff Legbars offspring resulting in 172 gold offspring and 52 cream offspring.

This work established Cream as a new color in the UK that had never before been formally noted or recorded. Punnett's study of the Cream gene also involved crosses with Rhode Island Reds. All of the cream colored birds in these experiments were called Creams. They retained cresting and blue eggs from the yellow Chilean Hen and the Cream gene which was likely from the Gold Penciled Hamburg cock.

A short time later Michael Pease, who had taken over the breeding of Gold Legbars, made a cross of his own that would lead to the second discovery of cream plumage. In 1939 he crossed a White Leghorn cockerel, from the Cheshire College of Agriculture at Reaseheath, with some of the breeding program's Gold Legbar pullets in an effort to increase egg production in the Legbars. This produced white and off-white offspring. An off white hen was bred back to a Gold Legbar cock producing 69 white and 49 colored chickens. Some of the colored chicks had the correct gold Legbar markings. Brother Sister matings were selected within the correctly marked offspring which produced three-fourths gold plumage and one-fourth cream plumage. Later testing pointed to the Reaseheath cockerel as the source of the Cream gene.

Punnett retired in 1940 and left Cambridge University, but continued to conduct genetic research in his home laboratories for many years until they were destroyed by fire. After he retired Punnett learned of Pease's cream discovery. To see if the cream color in the Legbars was the same gene in Punnett's Creams, test matings were conducted between Punnett's Creams with Pease's Cream colored Legbars. Their offspring proved cream colors in both lines were from the same gene.

The offspring resulting from the fusion of the two cream lines were selected for crests to distinguish them from Gold and Silver Legbars, blue egg laying ability, and clear markings for the auto-sexing feature. Punnett introduced these Crested Cream Legbars to the world at the London Dairy Show in 1947.