

“Cashmere” vs. Homozygous Rex Rats

Amanda Lacy, Rattie & Mattie’s Rattery (RAMR), AZ, Facebook

Q I have a rat that I have never had this fur type before. There were 4 born in the litter: 2 standard fur males, 1 Standard fur girl, and then “Curly Monster” as I call



Litter with “new coat” Agouti female (bottom right). You can see the coat is not smooth like the other Standard coats in the litter. Photo from Amanda Lacy.



The “new coat” as a baby showing the crimpiness of the coat and curly whiskers. Photo from Amanda Lacy.

her. Mom and dad were both Standard coat. On dad’s side there is nothing that we know of except Standard and Hairless (his mom was a Hairless, his father a Standard, and then their parents were Standard; back 4 generations there is another Hairless, and that’s all that is in his line that we know of). On mom’s side is half Hairless line (her father was Hairless and brother to the male above, and her mother was standard) and the other side is Standard and then her grandparents are what I call “Whatever” (it’s a mix of Harley/Satin/Velveteen). I’m very well versed in how Velveteen works as I have worked with them for 14 out of 17 years. My Velveteen’s are very soft. I got some in 2005 from Debbi Needham which I added to the Velveteen line I have had since 2001. I used to have a recessive line of Velveteen



The Fawn Standard-coat father to the “new coat” rat. Photo from Amanda Lacy.

(haven’t had for years) though they didn’t look like this girl, and she isn’t related to that line at all. My Rexes were always harsh like Brillo pads and my Velveteens have always been soft. Once mixed with each other they were never put back in the Rex or Velveteen lines unless they were 3 generations away and all standard coat. I no longer have Rex in my rattery.



The Agouti Standard-coat mother of the “new coat” rat. Photo from Amanda Lacy.



Mother to the mother, a Black Standard coat. Photo from Amanda Lacy.

The “new coat” showing the short sparse-looking coat and curly whiskers. Photo from Amanda Lacy.





An adult "Velveteen" male owned by Amanda Lacy with very soft curly plush coat. Photo from Amanda Lacy.



The "new coat" with curly whiskers like a Rex rat and darker nose area. Photo from Amanda Lacy.

I thought at first this baby was Hairless, though as she grows it is quite obvious she is not.

What fur type would you say she is (she's so soft like petting a Rex rabbit or a warm fluffy cloud, and as you can see her fur is very short; her coat just gets softer and softer, it sticks together so it looks thin but it's lovely and thick)?

A She has curly whiskers and some waves in her coat, so I would say a curly gene. If she wasn't as soft as you say, I would say it almost looks like a homozygous/"double" Rex with the short coat, though their coats are usually shorter than this and they go through many stages of hair/no hair/patchy hair (see photos), which is different from the hair coat your rat has. Since you know there is Velveteen (curly gene that has a very soft coat) in the line, it sounds like that but Velveteen is a dominant gene. Debbi Needham's site has a page on curly rats <http://web.archive.org/web/20071022125053/skyclide.com/GeneticsCurlyCoats.html> that talks about the Velveteen. And the page on the Rat Behavior and Biology site www.ratbehavior.org/CoatTypes.htm has info on some of the coat curly genes as well as Hairless.



24-day-old normal Rex next to a homozygous "double" Rex female. Rats owned and bred by Karen Robbins. I don't advocate breeding Rex to Rex, but with this litter the mom wouldn't get bred with any of my Standard males and the only male I had left was a Rex, which of course she got pregnant by him right away. I kept this Agouti homozygous Rex female in the litter to watch the progression of coat changes through her life. She was a nice rat with a nice personality. Photos ©2012 Karen Robbins.



The homozygous Rex at 31-days-old with no hair except for the face, ankles, wrists, and base tail.



... then at 37-days-old with a very short coat all over.

Since you got her from Standard parents, then it sounds like a recessive curly gene (Amy in CO has some but the ones I



The homozygous Rex at 3 months 8 days old.



... then at 3 months 3 weeks old. She looked pretty much like this as an older adult with a little less hair.



... at 4 months.



... at 5 months 5 days.

have seen in person are curlier at this age). Satin Rex (Rex gene) rats have nice curly



... and finally the homozygous Rex at 8 months 3 days.

coats with very curly whiskers (more curly than plain Rex) but your rat doesn't have "curl" in the coat, so it doesn't sound like Satin Rex. I don't know what a recessive curly gene plus Satin would look like, but I would think it would be similar, but Satins have the shiny coat which I don't see on your rat. I'm not sure what effect carrying Hairless would have with a curly gene. Plus you have to remember there are good and bad examples of each gene to where you might think you have something different since it doesn't look like it should, but it just has a poor coat, i.e. Rex can range from very curly and somewhat harsh to not much curl and soft. So perhaps you have a poor example of a recessive curly gene?

See what the coat looks like as she ages—does it get curlier, thinner, thicker, harsher? Also, breed her to a non-related Standard coat that does not have any other coats in its background and to a Hairless to see what you get. Keep us posted on what she looks like when older and the results of the litters. It will be interesting to see what you get out of your rat when you breed her.

Note: Since "Velveteen" is the RatsPacNW fancier's name for one of the *Cu* dominant genes, then a recessive curly gene should not be called by the same name. It is very confusing when someone says "Velveteen" but are not referring to the dominant gene, or the rat has a very harsh coat which is not how this coat is described in literature to be. It is also confusing when someone looks at a pedigree and sees "Velveteen" listed, but the dominant gene is not the one being referred to, or a different coat type is what the rat has but it is being called "Velveteen." I've seen/felt what was supposed to be "Velveteen" but they were harsher than most normal Rex gene coats, not soft at all. I've also seen/felt Amy Williams dominant gene curly rats that look like Rex but don't lose their coats when bred together like the Rex gene rats do.

Update: Until I find out what gene it is, I have dubbed it Cashmere, as that is the best description of how the fur feels: warm cashmere.



Picture one: the "new coat" rat a little older with a very short coat. Photo from Amanda Lacy.

I bred her to her brother a standard fur and 3 out of 4 babies are Cashmere. Her 3 babies are following her tracks exactly with fur development. It starts out thick and curly, then gets shorter, and shorter (Picture one), and stays thick until



Picture two: the "new coat" rat around 5–6 months old, now being called Cashmere. Photo from Amanda Lacy.

they are about 5–6 months then looks like Picture two. The fur is still fully around the body and rather thick, but looks thin (if that makes sense). Her fur has actually grown back in some since her babies are nearly weaned.

Next litter she will be bred to a Hairless male with no relation.

Send in your questions, comments, articles, etc., related to colors, markings, or coats to the Editor or e-mail editor@afirma.org.

Tameness Skull Change; No Link To Markings & Tameness

Did You Know? Domestication in animals causes a change in skeletal morphology so they tend to have a smaller and more slender skull. Studies found in tame rats, their skulls are narrower than wild aggressive rats. [This does not mean that narrow skulls should be bred for. See the article "Type Question: Head Shape On Rats" in the WSSF 2014 issue, for more on head shapes www.afirma.org/pdf/2014wssfp11-13.pdf. Ed.]

Researchers also found that even though white spotting was more common in tame animals, they did not find a link between tameness and white spotting. [Fanciers have found this to be true, certain colors/markings do not mean a better temperament than another, but rather it is from selection. Ed.]

From "The Belyaev Rats: An interview with PhD Student Alex Cagan," *Pro-Rat-A* 205 Jan./Feb. 2015. Article had a photo of a very nicely marked Bareback rat. Study "Genetic Influences on Brain Gene Expression in Rats Selected for Tameness and Aggression" published in *Genetics* November 1, 2014 vol. 198 no. 3 1277-1290 www.genetics.org/content/genetics/198/3/1277.full.pdf.

Send in your amusing story, short tale, news note, or other item of interest to the Editor or e-mail editor@afirma.org.