Soft Scale and “Scatter” Scale
The source of confusion around the Soft Scale gene in Crested Geckos

Published 12/2023

The following history of the Soft Scale gene in Crested Geckos is highly enlightening regarding how we have arrived at our current definition. Please spend the time reading the article in its entirety to fully understand the unraveling of our current understanding.

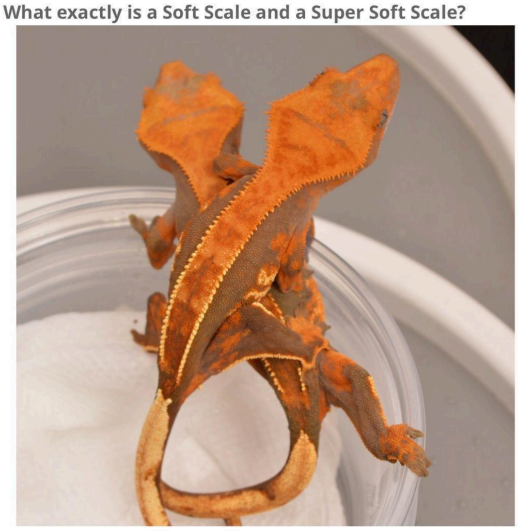
The Soft Scale gene was first discovered in 2003 by Anthony Caponetto, who noted it as “subtle”, but different enough for him to take note, and to “*keep an eye on*”. He did this by, (in his own words) *“Breeding the original Soft Scale female with Harry* (The male Crested Gecko behind the “Harry Line”) *and held almost everything back for years”.*

In an updated section from his website, (www.acreptiles.com) written in 2018, Anthony states “*it appears these geckos (soft scale) exhibit fewer bumps or "scales" on their skin, leaving more space between”* and that “*On some geckos the pinstripe scales seem to flatten and somewhat enlarge in diameter, while on others, the pinstripe scales seem to be of normal shape and size, but they're far more spread out.”*

Here, the original sire to the future soft scale line (Harry) is mentioned once again… “*Our famous Harry lineage's structure is a big part of the founding group of Soft Scales, so I think that gives us a bit of a* ***wildcard****, and is probably why we see some variation”* Anthony describes his decision for this pairing “*Since it was a unique scale structure or texture that I hadn't seen (or felt) before, I decided to breed her to Harry, an unusually* ***spiny/shaggy*** *looking male that matched her color and pinstripe pattern. I figured that way I would have two unique "side projects" in one, and regardless of how soft the soft scales got, Harry's DNA would provide me with the best chance of maintaining great crest structure with the Soft Scales. The softness was indeed inherited by several of the first generation of Soft/Harry offspring, and we got some nice examples of Harry's structure as well.”*

From 2018:

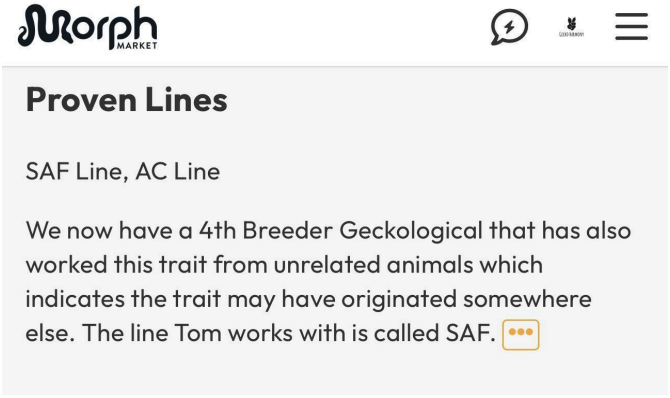
What exactly is a Soft Scale and a Super Soft Scale?



For years I wasn't sure, physically, what exactly it was causing these geckos to look and feel different from anything else I had seen. Upon examining some professional macro photographs, and looking at some of the more extreme examples of Super Soft Scales under a photographer's loupe, it appears these geckos exhibit fewer bumps or "scales" on their skin, leaving more space between. On pinstripe pattern scales along the dorsal crests, things can vary a bit. On some geckos the pinstripe scales seem to flatten and somewhat enlarge in diameter, while on others, the pinstripe scales seem to be of normal shape and size, but they're far more spread out. Our famous Harry Lineage's structure is a big part of the founding group of Soft Scales, so I think that gives us a bit of a wildcard, and is probably why we seem some variation in the way pinstripe scales are arranged or shaped.

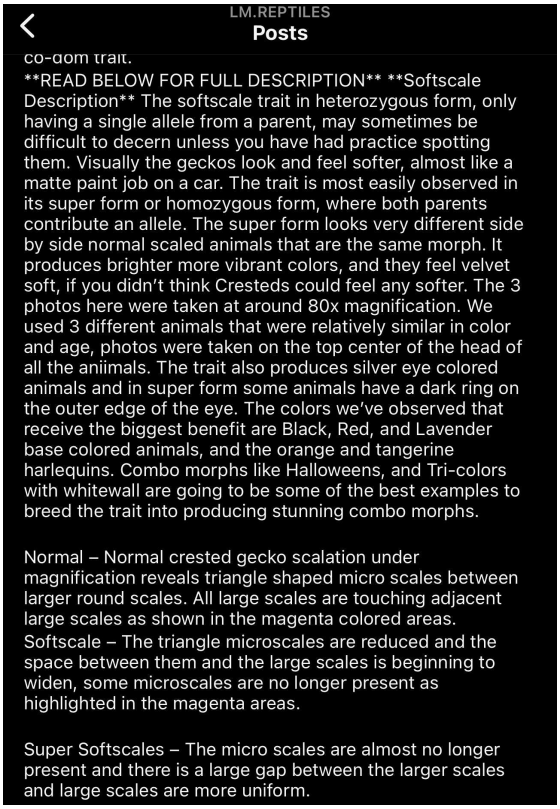
acreptiles.com

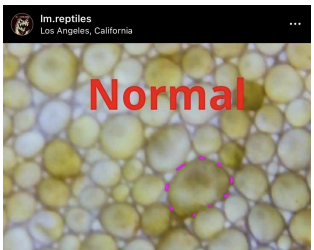
While Anthony Caponetto is widely accepted as the founder of the Soft Scale gene, it is also noted that another line has arisen in the last few years. This line is known as SAF (Soft As F***). This line originates from Tom Favazza of Geckological, a founder of Foundation Genetics. SAF is recognized on Morph Market and Foundation Genetics website as a Proven Line. According to the Morph Market description, this line is claimed as having originated from unrelated animals, however it is safer to assume it is the same gene at play until proven otherwise.

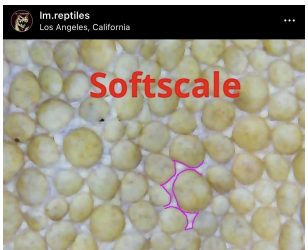


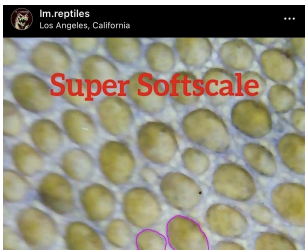
Refining the definition

The next major event surrounding this gene occurred in April 2020 when Soft Scale was independently verified by Anthony Vasquez of LM Monsters, another founder of Foundation Genetics. The description, which includes phenotype descriptions (visual differences between Normal, Softscale, and Super Softcale), can be seen to the right. This is the first mention of "*triangle-shaped micro scales"* that we could find. The description states that these "*micro scales"* are "*almost no longer present, and there is a large gap between the larger scales*" in the Super Softscale (Homozygous) form. The description here states that photos were taken of 3 different animals (n=3) at 80x magnification and that the photos were taken at the top center of the head**.** The photos used as examples in this post are included below, and were the first accepted visual guides to assist in identifying the gene.

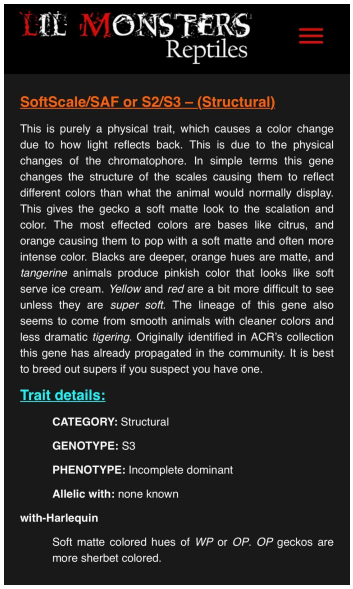


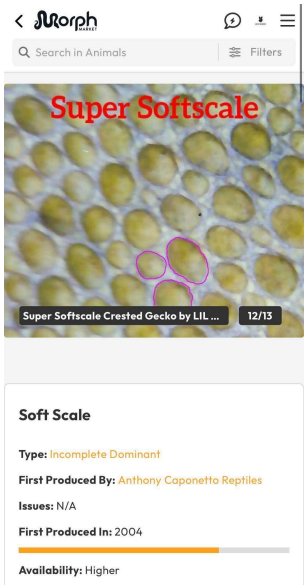






The current descriptions from the Foundations Genetics website (a widely used resource for describing Crested Gecko genetics) can be seen to the right. This description lists SoftScale/SAF together as a "*Structural*" trait, defining it as *"purely a physical trait*" that changes the structure of the scales, which in turn causes light to reflect a different color. The Current Morph Market definition lists the gene as incomplete dominant and includes the images from the above mentioned post as examples to identify the gene. Morph Market describes the gene as follows: *"It appears these geckos exhibit fewer bumps or scales on their skin than most non soft scale geckos, leaving more space between them, giving a soft feel to the gecko."*





The descriptions listed above are what we consider the most widely accepted and are currently used across the hobby to aid in identifying Soft Scale when present in an animal.

Finding the Heterozygous Form

In 2023, Nicholetta Donaldson of Giuliana's Geckos and Daniel Foley of Gecko Harmony published the article "Soft Scale Explained," which outlined a study conducted as an attempt to find a consistent Heterozygous marker for the Soft Scale gene. Using the above-mentioned definitions and visual guides that identify scale spacing as the main marker, the sole focus of the study was to measure scale spacing in all forms of the gene accurately with laboratory equipment and practices.

******Note*** When we began the scale spacing study, we were initially very disappointed by how few of our "expected" (by the look and/or lineage) Soft scale animals showed the scale***

spacing that defined the homozygous form (n = 46 combined / 200+ expected). Regardless, we conducted the study by "resetting" our collections, with spacing as the identifier. ***End note**

The study was robust, analyzing a large group of animals, and concluded that there was no statistically significant spacing difference between Wild Type (Normal) and Heterozygous animals (p > .05). In summary, the study found that the Soft Scale genetic (As defined above by scale spacing) acts in a recessive manner. The "Soft Scale Explained" research summary can be read in its entirety here: https://www.giulianasgeckos.com/soft-scale-explained

Another outcome of this study was a better understanding of the "interscale structure" and how this gene affects it. Below is a comparison of the earlier images used to identify "Super Softscale" on the left and a higher resolution image showing more detail on the right. The image on the right clearly shows a scale "splitting" of the secondary scales. While this splitting can vaguely be seen in the image on the left, they were previously identified as a diminishing "micro-scale."

Findings

Because many believe they can see a visual difference in heterozygous Soft Scale animals, once the study was concluded, many asked the same question…"How do you explain the soft scale "look" in animals if there is no spacing (structural impact of the gene)?" Initially, we proposed a few alternative possibilities to explain how this could be accomplished, which included a form of hypo being responsible/confused as the soft scale "look", or a selection for a "clean" phenotype (low levels of tigering/pattern) being the cause. Still, it was until we began to track the Soft scale look on its own, and compare the results with those from the scale spacing study, that an understanding began to take shape. The tracking results below formed four readily apparent phenotypes:

1.) Super Soft phenotype (the look of), with NO spacing. These animals originate from Anthony Caponetto's Super Soft scale animals. They typically have a very clean "hypo" like

appearance with a homogenous color, (more uniform) and a smooth appearance/texture to their skin. There is no additional space between primary scales when compared to wild type specimens. Scale **height** *may be* affected, which could account for the "soft" appearance, however, the lack of scale spacing remains consistent with the wild type. **This look is inherited in either a recessive or incomplete dominant fashion, and is believed to be closely related to the current "Hypo" gene. It has been separated from the scale spacing that previously defined the Soft Scale genetic in multiple generations.**

2.) Homozygous for spacing with NO "Soft scale appearance." (Scatter Scale)These animals were included in the scale spacing study and have a larger spacing between primary scales (~20% wider), with scale splitting between primary scales seen over most of the body. These animals were also noted as well structured (large pins, heads, and bodies) and can be quite "bumpy" in texture. **This phenotype, along with the scale spacing trait, appear to be passed down in a recessive manner and has been tracked over multiple generations.**

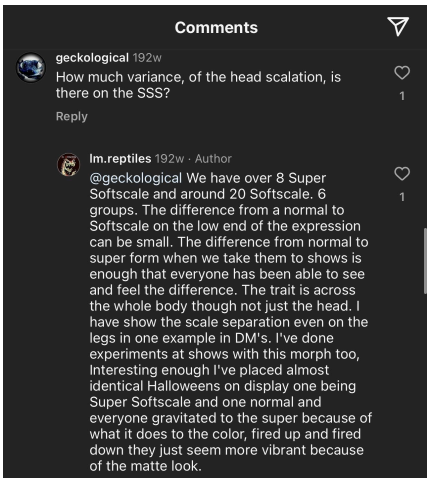
3.) Double Homozygous - (Super Soft Scale appearance AND Scatter Scale) These animals are considerably rare and coincidentally are our most exceptional examples. There seems to be an intermediate expression of scale height somewhere between the "bumpy" texture from category (1) above and the smooth texture from category (2). Scale spacing is consistent with category (2) animals.

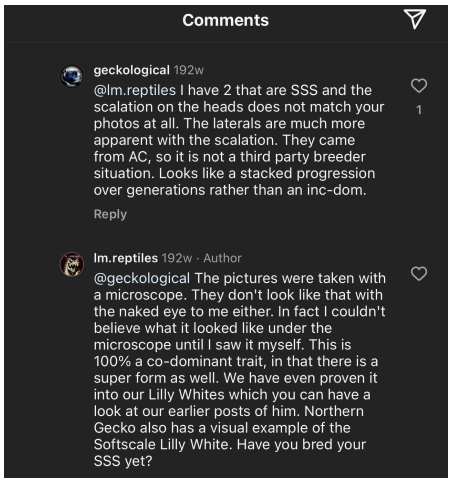
4.) Hets - While the spacing genetic that was tracked in "Soft Scale Explained" is inherited in a recessive nature, the inheritance of the "Soft Scale" look (in Heterozygous animals) has been noted as subtle since its founding in 2003.

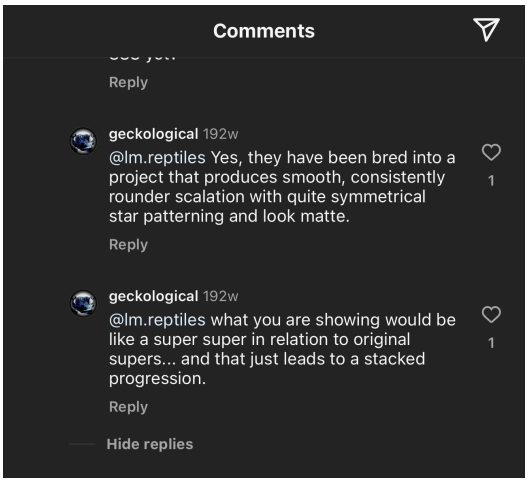
The most important thing to note about the categories above is that the scale spacing and the soft scale "look" can, and have been separated over multiple generations. In other words, we believe the Soft Scale gene should not be defined by scale spacing, nor as purely structural gene. At this point, we want to point the reader back towards the original definition on Anthony Caponetto's website and his mention of the "***wildcard***," which is the Harry line structure that is so embedded into the soft scale line. We believe that the examples previously used to describe the gene fell into category (2) or (3) above and hence misattributed a causal relationship when, in fact, there were multiple genes at play. For our own purposes, and because of the way it impacts scale spacing we have begun using the term **"Scatter Scale"** when describing the scale spacing structural trait, and continue to pursue the best way to describe the Soft Scale gene now that a more precise understanding has been found. We are researching the relationship between AC's Harry Line and the information we have offered with this research, as we believe there to be a correlation between the "Scatter scale" gene (as we call it), and AC's Hairy Line animals. It is worth noting, that because these two traits (soft scale and the scale spacing gene) have been so thoroughly intertwined since the

very beginning of the Soft Scale line, it is not surprising that there has been confusion in the past, especially when only a small number of animals were considered for assigning previous definitions.

Unanswered questions







In the "Soft Scale Confirmed" post, (announcing the independent confirmation of the Soft Scale gene), Tom Favazza of Geckological initially questioned the explanation of findings shortly after the post was written, noting that his Super Soft Scale animals (bought directly from Anthony Caponetto) did not match the proposed images. While in hindsight, we now see that these questions should have been explored further, the comments also shed light on a scenario that could potentially arise when information is shared and accepted without a robust analysis. Whether or not “new” lines (or genes) were, or have been “found” due to the early mislabeling of the Soft Scale gene as a structural trait in the scales is unknown. These traits have been in the hobby for quite some time…and, therefore, have likely worked their way into various projects.

As an example: If a line of animals looks very “Soft Scale” but after multiple breeding seasons had never displayed the structural change that had previously defined the Soft Scale gene (scale spacing), one could easily be fooled into thinking they had found a new form of “Soft Scale,” or Hypomelanism (e.g. “SAF”, “Cold Fusion”). The same thinking could be applied to the “Split Scale” trait, as some genes/traits that are currently described as impacting scale structure (eg. “Furry,” "Aberrant scale”) could also be “misattributed”.

What's Next?

While we continue to unravel some of the confusion around the Soft Scale gene, we have been rewarded in gaining some insight into some of the more unique color hues found among Crested Geckos. Results that didn’t always make sense have become more evident now that we have two independent variables at play that can impact color: Soft Scale, by its very

“hypo” like impact, and Scatter Scale (as we refer to the findings in our “Soft Scale Explained” research), through its impact on the scale and thus the refraction of light through it. As mentioned above, in category (3) animals, combining these two traits produces the most impressive animals (in our opinion). Thus, credit should be given to Anthony Caponetto for his vision of combining the two traits from the very start.

Our goal in offering this extended information is to continue providing more insight for consumers to use and figure out within their collection. Crested Gecko Genetics are ever-evolving, and indeed picking apart each gene in its entirety will continue to help us grow and learn more about this amazing species. We do not expect anyone to rename the gene on our behalf, however, we feel it would be a disservice to anyone passionate about this gene if we are not honest with our continued findings. We look forward to sharing more details, including all supporting examples and lineages, in our upcoming E-book!

Disclaimer

The following research article (Soft Scale Explained) was a major stepping stone to our current understanding of both the Soft Scale and Scatter Scale genes in Correlophus Ciliatus. We have left it in its original form to shed light on how our conclusion (that Soft Scale should not be defined by scale spacing) was made, however, the paper ABOVE should be referred to for current conclusions and definitions.

The following case study is not intended to devalue the work of any past or present enthusiasts and experts. Instead, it offers a fresh perspective with tangible result-based information. We recognize that there may be differing opinions and perspectives, which we fully respect. We welcome scientific discussions and questions concerning our past and present studies as we

continue to develop our interpretations and discoveries further.

No animals were harmed in this study, and is intended for educational purposes only

Soft Scale Crested Gecko Proposed Explanation

Nicholetta Donaldson & Daniel Foley
A guide for understanding the "Soft Scale" genetic in Correlophus Ciliatus. A means to answer long-asked questions.

INTRODUCTION
From the beginning of my breeding journey, Soft Scale Crested geckos have been my passion. I was attracted to the expressed gene as a Super (homozygous). The vibrant colors, matte-like appearance, and incredible structure these animals possessed was what excited me about breeding. I focused on creating the best version of the Crested Gecko using this specific genetic trait and dove head first into investing in as many Super Soft Scale Crested geckos as I could get my hands on. As I continued working with these animals and studying them more closely, I began recognizing a pattern among offspring that started to raise questions as to what exactly was going on in my collection. Similarly, Daniel Foley had been seeing trends and was asking me the same questions. Not only were we questioning ourselves for validity in our projects, but others were reaching out with the same question time after time…

How do I know if I have a "Soft Scale" versus a "Normal" Crested Gecko…

Yet, for this common question, we did not have a definitive answer. How can we be so passionate about a specific genetic yet need straightforward answers to some of these most pressing questions? As breeders and entrepreneurs both with backgrounds in science, this was not going to cut it. In a search to answer these questions, Daniel Foley and I set out to determine how to identify a Soft Scale mutant gene and the visual markers denotining it.
~Nicholetta Donaldson~

<u>SOFT SCALE CRESTED GECKOS BY CURRENT DEFINITION</u>

The Soft Scale Crested Gecko, by current definition, has left room for broad interpretations as to how this gene expresses itself in homozygous and heterozygous forms. The definitions below are cited and are available in more detail on the website links.

Anthony Caponetto (Anthony Caponetto Reptiles):

“In short, we have an incomplete dominant (or "codominant" as it's called in the reptile world) mutation that one could argue is a recessive because the Soft Scale is so subtle in single-gene form.”

GENETIC ODDS:

(Parent x Parent = Offspring Percentages)

Soft x Non-Soft = 50% Soft and 50% Non-Soft

Soft x Soft = 25% Non-Soft, 25% Super Soft and 50% Soft

Super Soft x Non-Soft = 100% Soft

Super Soft x Soft = 50% Super Soft and 50% Soft

Super Soft x Super Soft = 100% Super Soft

Citation: Individual Crested Geckos :: Soft scales & Super Softs. (n.d.).
https://acreptiles.com/new_store/index.php?dispatch=categories.view&category_id=16

Anthony Vasquez (Foundation Genetics): **SoftScale/SAF or S2/S3 – (Structural)**

“This is purely a physical trait, which causes a color change due to how light reflects back. This is due to the physical changes of the chromatophore. In simple terms this gene changes the structure of the scales causing them to reflect different colors than what the animal would normally display. This gives the gecko a soft matte look to the scalation and color. The most affected colors are bases like citrus, and orange causing them to pop with a soft matte and often more intense color. Blacks are deeper, orange hues are matte, and tangerine animals produce a pinkish color that looks like soft serve ice cream. Yellow and red are a bit more difficult to see unless they are super soft. The lineage of this gene also seems to come from smooth animals with cleaner colors and less dramatic tigering. Originally identified in ACR’s collection this gene has already propagated in the community. It is best to breed out supers if you suspect you have one.”

Trait details:

CATEGORY: Structural

GENOTYPE: S3

PHENOTYPE: Incomplete dominant

Allelic with: none known

Citation : FG-PT2.1 » LIL MONSTERS Reptiles. (2023, August 7). LIL MONSTERS Reptiles.
https://lmreptiles.com/fg-pt2-1/#softscale

Discussion

As we began our search for an answer as to what truly makes a "Soft Scale" different from a normal crested gecko, we started by analyzing the current explanation that describes it. We quickly saw that the current descriptions were vague and based on information that gave little insight into the fundamental differences that defined them. By definition, in an incomplete dominant gene mutation, the phenotype (the look of) the heterozygous gene carrier should visually express itself differently than a normal (Wild Type).

The information from Anthony Caponetto states that; *"it can take a well-trained eye to spot them. Even then, it will take a minimum of 2-3 years before you can produce a Super Soft and can say with any certainty that you have true Soft Scales. While there may be geckos out there who feel soft, or have some of the other traits I mentioned, the true test to find out if a gecko is a Soft Scale is to breed it - that's how it was done here. If a gecko produces Soft Scales when bred to an entirely unrelated gecko, you will need to breed two of those geckos and then produce Super Soft Scales to know for a fact that you have a Soft Scale."* According to Caponetto, in the Super form of the Soft Scale gene, you see distinct spacing between the scales, and the scales appear smaller. He says, *"Upon examining some professional macro photographs, and looking at some of the more extreme examples of Super Soft Scales under a photographer's loupe, it appears these geckos exhibit fewer bumps or "scales" on their skin, leaving more space between. On pinstripe pattern scales along the dorsal crests, things can vary a bit. On some geckos the pinstripe scales seem to flatten and somewhat enlarge in diameter, while on others, the pinstripe scales seem to be of normal shape and size, but they're far more spread out."* (Anthony Caponetto *Individual Crested Geckos :: Soft scales & Super Softs. (n.d.)* *https://acreptiles.com/new_store/index.php?dispatch=categories.view&category_id=16*)..

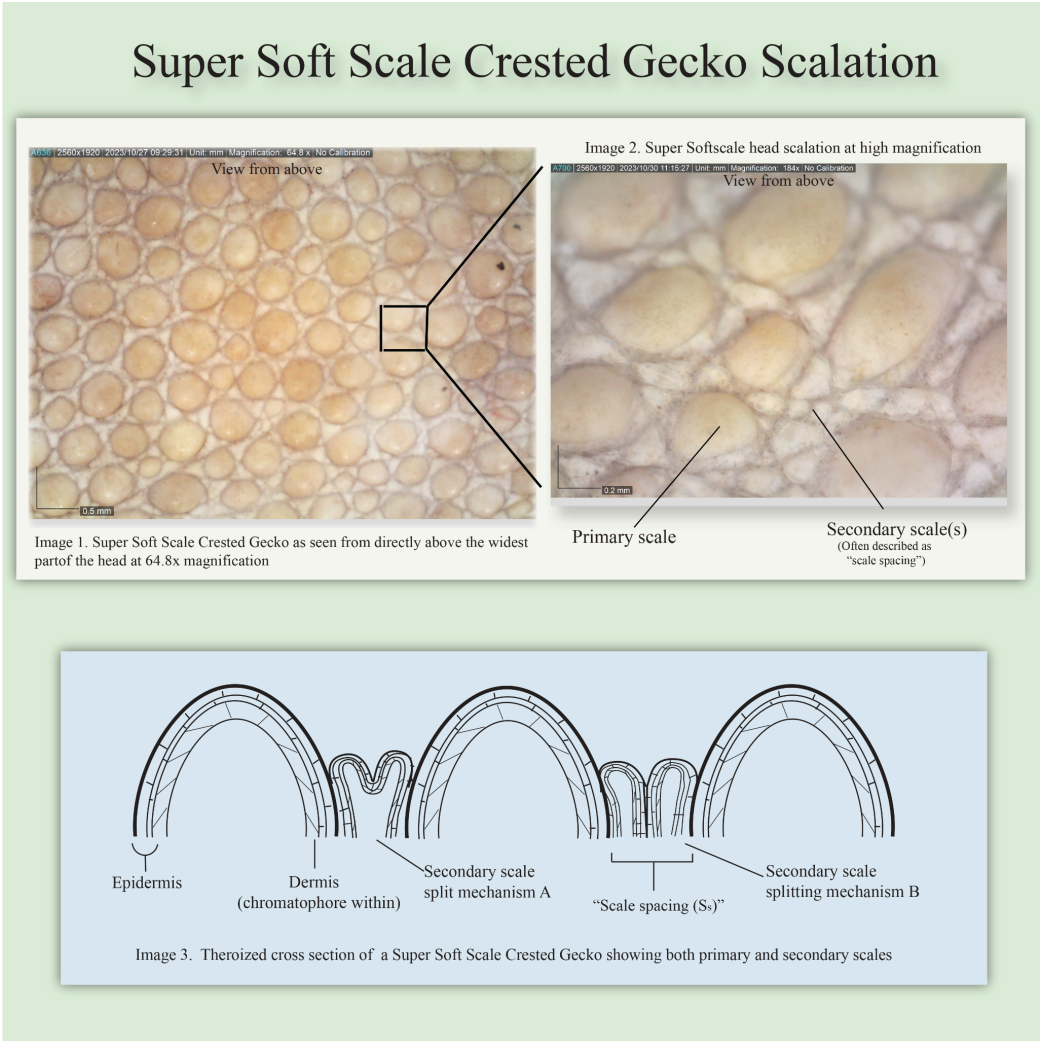
Anthony's definition gave us enough information to work towards identifying the Super form in our collections readily. Since we both had invested in a large amount of Super Soft Scales, we had plenty of geckos to start analyzing. We both bought professional handheld microscopes and began to identify the Super Soft Scales in our collections correctly. We started with the top of the head between the widest crests and along the dorsal of each gecko. The possible Super Soft Scales were identified using a 50x magnification in which we observed a notable scale spacing consistent with the super soft scale phenotypic descriptions above.

***Note: This was the most challenging part of the project for both of us. Having both collected and bred for this specific genetic avidly for several years, we found our findings hard to accept. Animals we expected to be Super Soft appeared "normal", and pairings specifically set up to produce Super Soft offspring had not. Although we felt defeated we were determined to have a clear definition and/or identifier for BOTH the homozygous AND heterozygous forms.**

We had no choice but to pull up our sleeves and continue to analyze our confirmed Super Soft specimens. These were initially identified as specimens in which we saw abutting scales at the center of the widest part of the head not touching one another under a 50x magnification. We scanned other body regions among these, (abdomen, laterals, eyes) for any consistent physical anomalies and found none. We then took a closer look in hopes to determine a cause for the scale spacing, or any extra information about the scales that were notable. As we did, increasing our magnification as we scanned, we realized it was more than just spacing between the scales. This

phenomenon began to be noticeable at 175x + magnification. We noticed a splitting or proliferation of what seemed to be extra scales between them.
At this point, we deemed the large scales recognized by the naked eye as “primary scales" and the new ones in the “scale space” as “secondary scales.” (They are referred to as such in this article as we advance and shown in the figures below) This pattern was consistent throughout all geckos that originally showed initial spacing in the 50x magnification. The secondary scale proliferation/splitting was present on the head and dorsal of all Super Soft Scale subjects. The new findings were fascinating.

Thankfully, we had a multitude of holdbacks that we could pull offspring data from. The offspring from the proven Super x Super pairings (27 in total over 20 grams) inherited the scale spacing with the secondary scale proliferation 100% of the time. We now had a distinct physical characteristic that allowed us to recognize the Super Soft Scale from the Wild Type in our studies and knew exactly what to look for in an intermediary heterozygous form. Diagrams depicting our findings follow:



Wild Type (Typical) Crested Gecko Scalation

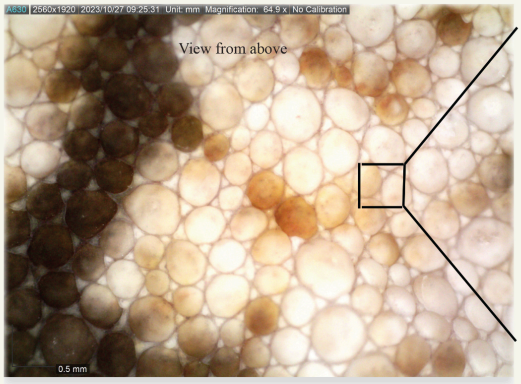
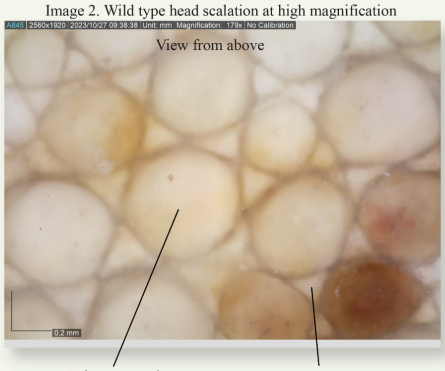


Image 1.Wild type crested gecko scales as seen from directly above the widest part of the head at a 64.9x magnification

Image 2. Wild type head scalation at high magnification



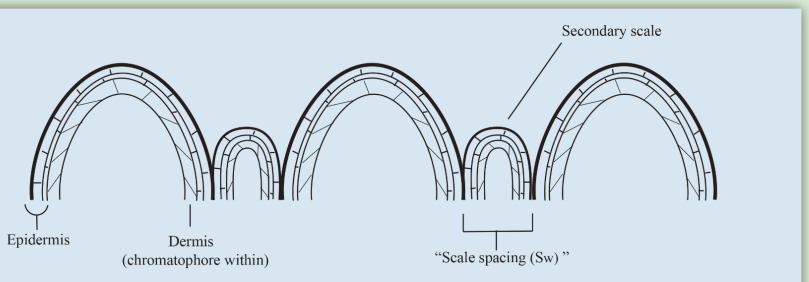


Image 3. Theroized cross section of "Normal Crested Gecko" showing both primary and secondary scales

Next, we looked at offspring from the proven Supers (homozygous) bred to a Wild Type, who, by genetic inheritance, should all be the visual heterozygous mutation Soft Scale. We did this hoping to see a degree of spacing that would distinguish them from a Wild Type (normal). We looked for any scale spacing and any signs of secondary scale proliferation. In all 39 subjects photographed there was no evidence of extra spacing.

In both magnifications the Soft Scale and Wild Type(normal) were seemingly identical. Even though they seemed to be the same with no variation we developed a few measurement tests that would give us more conclusive data. We ran three quantitative data analyses including; diameter of the scale from each type, measurement of the spacing between scales on an average, and the total number of scales in a standard area.

Note* Scales measured outside of the head and dorsal are invalid areas to look at when determining spacing. All Crested Geckos have a degree of spacing between on the lateral and leg scales. This varies within different morph variants.

Summary of our methods are below;

- **Dino Lite Edge Plus (AM897MZT) Handheld Microscope with video.**
- **Gecko subject's number were maximized while attempting to minimize weight range, which is noted below each figure**
- **All measurement photos were taken on top of the head between the widest crests.**
- **All measurement photos were taken at 64x-65x magnification for spacing analysis.**
- **All measurements were run on a multi-scale average with the same amount of scales measured in each.**
- **All measurements were conducted in a manner to eliminate bias**
- **Measurements were taken using Adobe Acrobat Measure Tool and adjusted for minor fluctuations in magnification readings seen in images below.**
- **There were no geckos expressing the Phantom or Lilly White genetic in this study.**

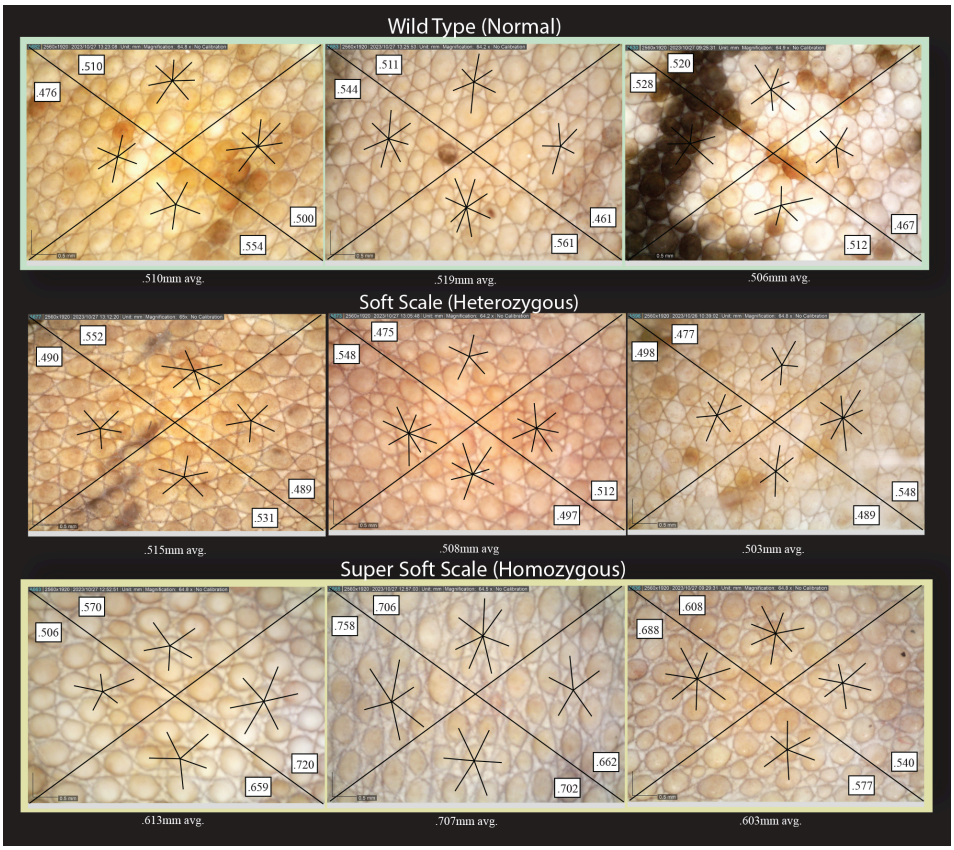


Figure 3. Measurements of each genetic variation were taken across the widest part of their primary scales from the central location at the widest part of their head. For this figure, sixteen animals weighing 39g-45g from each genetic variation were photographed, and each photograph split into four quadrants. Measurements were then taken between the center of a central scale and all of its abutting scales within each quadrant. Averages for each representative photos are shown below its photograph with overall averages from the three genetic variations being: (Wild Type=32.704/64=.511mm/avg, Soft Scale (Heterozygous)=32.832/64=.513, Super Soft (Homozygous) = 38.74/64 = .605). These averages represent roughly an 18% increase in scale spacing among Soft Scale and/or Wild Type specimens.

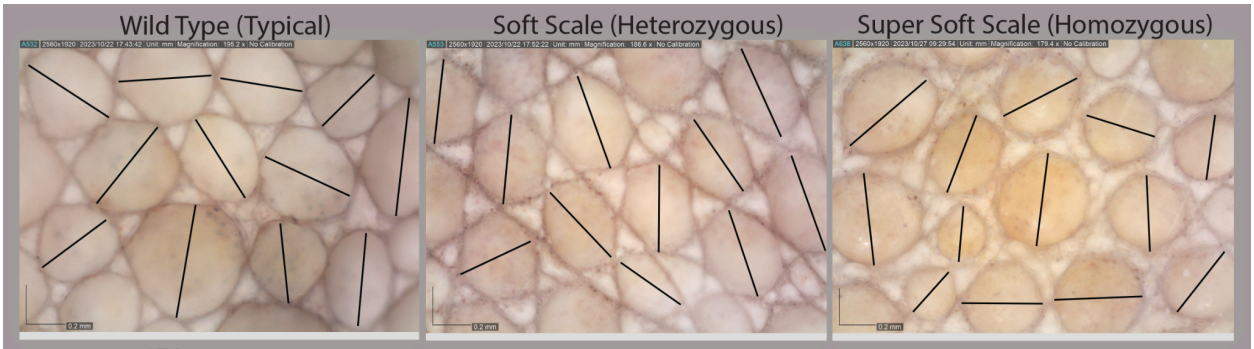


Figure 4. Measurements of each genetic variation were taken across the widest part of their primary scales from the central location at the widest part of their head.
For this figure, fourteen animals weighing 39g-44g from each genetic variation were photographed and averages taken. (WT=41.448mm/88=.471mm/avg, Het=40.936mm/86=.476mm/avg., Soft=39.249mm/89=.441mm/avg)
Note: Magnification varied slightly from photo to photo and is accounted for in the measurements.

Conclusion

After all measurements were complete and comparisons recorded, it was observed that the heterozygous Soft Scale does not visually support incomplete dominance genetics. As it stands from our observations the Wild Type (Normal) is dominant to the Soft Scale making it more likely to be a recessive gene. The homozygous (what we currently call Super Soft Scale) displays a wider scale spacing with scale proliferation within and a smaller scale diameter, which is not observed in the heterozygous form. The results are rather conclusive that there is NO notable difference between the Soft Scale specimens and the Wild Type (Normal) specimens. The average spacing and scale amount showed less than .3% variability between the two and trended opposite to the homozygous results, which averaged an 18% larger scale spacing than the Wild Type. Similarly, scale diameter results varied by only 1% between Wild type and Soft scale specimens. In comparison, the Homozygous form was 6.8% smaller than Wild Type, and 7.9% smaller than those Soft Scale Specimens examined.

Given the conclusive data of this case study and the further studies we have started, it seems clear that the scalation of the Wild Type (Normal) and the scalation of the Soft Scale phenotype has no clear visual difference There are no known physical attributes to the visual heterozygous(currently known as Soft Scale) to that of the Wild Type (Normal) . We are proposing a new definition of the Soft Scale gene that will give a more accurate representation of how the gene is inherited.

PROPOSED DEFINITION OF “SOFT SCALE” GENETIC

(NICHOLETTA DONALDSON & DANIEL FOLEY)

Below is the proposed definition of the “Soft Scale” genetic in Crested Geckos. The proposed adjustment to the current definition comes from the above research and case study by Nicholetta Donaldson and Daniel Foley. The proposed changes could address the confusion currently in place for this genetic.

The Soft Scale (currently known as Super Soft Scale) Crested Gecko Genotype is a Recessive mutation in which the "primary scales" are spaced farther apart than the Wild Type (Normal) Crested Gecko. The scale spacing in the full expression(homozygous) of this gene is accompanied by the proliferation or "splitting" of the secondary scales that reside between the primary scales on the gecko's head and dorsal. Scales also show a smaller diameter as compared to their wild-type counterparts. The phenotype (the look of) of the Heterozygous gene carrier shows no visual difference from that of the Wild Type (Normal). Soft Scale is an inheritable mutant gene that results in a change to the gecko's physical appearance that enhances both color and pattern when compared to the Wild Type(Normal). The degree to which you can see this depends upon the corresponding lines crossbred into the gecko.

Genotype: Recessive

Soft Scale: Homozygous form

Wild Type (Normal-No Soft Scale Present)

Soft Scale x Soft scale = 100% Soft Scale

Soft Scale x 100% Het Soft Scale = 50% Soft Scale + 50% Het Soft Scale

Soft Scale x Wild Type = 100% Het Soft Scale

Het Soft Scale x Het Soft Scale = 50 % Soft Scale + 25% Het Soft Scale + 25% Wild Type

Wild Type x 100% Het Soft Scale = 50% Wild Type + 50% Het Soft Scale

An argument could be made that the heterozygous form could display an altered scale depth, which is not covered in the measurements above. While we think this unlikely, we did analyze some photographs, and do not believe this is the case. It is also important to note that the possible look and feel associated with the heterozygous currently known as Soft Scale is likely due to other traits and polygenic properties associated with line breeding. It is unrelated to the scale structure and spacing identifying the homozygous Soft Scale in the gene mutation. We are working on more studies to determine how Soft Scale interacts with other genetic mutations such as the Lilly White and Phantom. The accuracy of this genetic makeup is imperative for the advancement of further genetic studies within the Correlophus Ciliatus.