

Leaf Tailed Gecko



But the real wonder of the Leaf Tailed Gecko is not his leaf, but his foot. It sticks to anything.

A gecko that is as large as a foot long has such adhesive power in its feet that it can run upside down on a pane of glass. And the adhesion to the glass is so strong that it can support a 250 pound man!

The dime-sized feet of a Tokay gecko pack enough sticking power to suspend a 250-pound man from a ceiling. They enable the 12-inch lizard to scale walls at breakneck speed or saunter upside-down across a plate of glass. A gecko can stick to the molecularly smooth surface of a silicon wafer. It will hold fast underwater and in a vacuum. It can attach and detach its toes with ease, and its feet never stick to each other or clog with sand and dirt.
University of Minnesota News, March 20, 2008

(referencing research conducted by Tony Gamble for the Bell Museum)

What causes this amazing ability?
According to the above quoted article, only recently have scientists been able to determine how the gecko has such amazing adhesion.

The gecko's foot is not sticky, like adhesive tape or glue, nor does it contain suction cups. The amazing adhesion of the gecko's foot can be explained only by means of nano-technology that addresses the electro-molecular forces that exist between molecules. In order for the molecules of a living thing to take advantage of these molecular forces, the living thing must possess parts that are small enough.

The pads on the gecko's feet are covered with millions (?) of tiny appendages called setae. But millions of these setae are not small enough to take advantage of the electro-molecular forces. So, *each* of these appendages have hundreds of other smaller appendages. But these appendages are not small enough either. So, each of these appendages have hundreds of other appendages that are .02 microns wide. These microscopic appendages are called spatulae, and they are small enough. The spatulae are shaped like tiny spoons in order to expand their surface area, and they are so small that each one creates a minute electrostatic molecular bonding with *any* surface, even under water. The bonding forces that bind the spatulae to a surface are called Van der Waals forces. See Kellar Autumn; [Metin Sitti](#) ; Yiching A. Liang; Anne M. Peattie; Wendy R. Hansen; Simon Sponberg; Thomas W. Kenny; Ronald Fearing; Jacob N. Israelachvili; Robert J. Full. Evidence for van der Waals adhesion in gecko setae. *Proceedings of the National Academy of Sciences of the USA* **2002**, *99*, 12252-12256. doi: [10.1073/pnas.192252799](https://doi.org/10.1073/pnas.192252799); also

see the above quoted article published by the University of Minnesota.

Van der Waals forces are extremely weak forces that attract individual molecules to one another under certain circumstances. These forces are imperceptible except on the molecular level, and then they are effective only when the adhering element is microscopic. But when millions upon millions of these microscopic appendages are used in concert, they form an adhesion that is orders of magnitude more effective than conventional adhesive tape - and yet they are instantly released by simply changing the angle of force. So, a gecko equipped with these appendages on the bottom of its feet can literally run on a pane of glass upside down.

How did these things come to be?

Did geckos really accidentally mutate millions of tiny appendages, and then, when those did not do the trick, accidentally mutate hundreds more on each one of the millions and then mutate hundreds more on each of the hundreds - and then and only then receive the benefit of van der Waals adhesion?

And did accidental mutations and survival of the fittest and mother nature really get together and shape the smallest appendages into millions of tiny microscopic spoons until "Wow!" now they are small enough to take advantage of Van der Waals forces! How fortunate!

And did this development continue on a parallel course with the leaf-tail until these appendages "discovered" what Van der Waals forces could do and the tail became an almost perfect representation of a wilted leaf? Is that really how a gecko came to be able to run upside down on a pane of glass?

If so, and if the environmental pressure was great enough to force the creation of the gecko's foot, then how did the

pre-Van der Waals forces geckos ever survive? What benefit to survival was the gecko foot that had not yet developed adherence? And what environmental force decided to go on and create a foot adhesion that was 250 times more effective than necessary?

Do environmental pressures, accidental changes and dead geckos really create millions of spatulae that are effective to take advantage of otherwise imperceptible electro-molecular forces? Let's face it the *only* thing that environmental pressures can do to geckos is kill them (or make their life miserable). If mutations and environmental pressures really do things like creating a tissue on gecko feet that employs nano-technology, why is this not abundantly observable?

Is the evolutionary explanation logical? Is it really logical to argue that these things arose because all the geckos that didn't have them died? Or is this an explanation provided only because the alternative explanation is unacceptable for other reasons?

The evolutionary explanation is not a logical explanation and it is provided because the alternative is dismissed *a priori*. It is not necessary to evolutionists that their explanation is logical, and the absence of evidence to support it is irrelevant.

Even if there were no actual evidence in favor of the Darwinian theory ... we would still be justified in preferring it over rival theories [creationism]. Richard Dawkins, *The Blind Watchmaker* (NY Norton, 1986), 287, emphasis in the original

The only logical conclusion based upon the evidence is that the foot of the gecko was intelligently designed with the purpose of utilizing Van der Waals forces. An objective assessment of what is

observed simply does not point to a series of millions of fortunate unobserved accidental mutations. It points to a design made by a Designer who was aware of Van der Waals forces before the foot of the gecko was ever constructed.

see the [uroplatus gecko](#) and its amazing camouflage.

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