Humidity influences gecko adhesion ability

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Germany scientists say they're closer to understanding how geckos climb walls, walk upside down across ceilings and perform other feats of adherence.

The scientists at the Max Planck Institute for Metals Research in Stuttgart, Germany, say tiny pads, called spatulae, on gecko's feet accomplish the clinging by using humidity.

The scientists tested the spatulae, each about 200 billionths of an inch wide and long, to determine how much force was needed to detach them from various surfaces.

The researchers discovered the amount of force required increased with each surface's affinity for retaining microscopic amounts of water. It also rose with the amount of humidity in the air.

The mystery of Gecko adhesion is important in materials science since it might lead to the development of new types of adhesives, the Christian Science Monitor reported.

The research is detailed in this week's online early edition of the Proceedings of the National Academies of Science.