

# 生物策略表

類別	生物策略 (Strategy)	
生物策略 STRATEGY	指尖的皺紋可增強抓握能力 (Wrinkled Fingertips Enhance Grip)	
生物系統 LIVING SYSTEM	靈長類動物（靈長目）(Primates)	
功能類別 FUNCTIONS	#暫時性附著 #獲取、吸收、或過濾固體 #Attach Temporarily #Capture, Absorb, or Filter Solids	
作用機制標題	靈長類動物的指尖藉其皺紋增強在潮濕狀況下的抓握能力 (Fingertips of primates enhance grip in wet conditions by wrinkling)	
生物系統/作用機制示意圖 (確認版權、註明出處； 畫質)	<div></div> <div>Image: Isaac Fryxelius / Pixabay / CC BY NC - Creative Commons Attribution + Noncommercial</div>	
作用機制摘要說明 (SUMMARY OF FUNCTIONING MECHANISMS)		
<p>我們都知道假使手指指尖和腳趾保持濕潤約莫五分鐘甚至更久，就會起皺。鮮為人知的是，上述現象是由我們的神經觸發的主動反應，如果這些神經受損，此反應就會停止。出現在我們手指和腳趾上的皺紋具有相當獨特的形態，能對應到最有效排水的地勢。當我們和其他靈長類動物的手指變濕時，會形成凹槽和脊狀的皺紋，意味著一小部分皮膚與手指握持的表面接觸。就像輪胎的胎面一樣，凹槽可以將水排出。與輪胎胎面不同的是，我們的指腹很柔軟，隨著壓力增加和水被排出導致凹槽的尺寸縮小，我們能夠繼續增加接觸面積。</p> <p>對於經常攀爬在樹木和岩石等多雨導致表面潮濕的物種來說，這種為應對濕度而主動增加抓握能力的反應是有道理的。</p>		
<p>We all know that our fingertips and toes wrinkle if they stay wet for around five minutes or more. Less well known is that this is an active response triggered by our nerves and that if those nerves are damaged, it stops. The wrinkles that appear in our fingers and toes have a very distinctive pattern that corresponds with the most efficient topography for moving water out of the way.</p> <p>The grooves and ridges that form when our fingers, and the fingers of other primates, become wet mean that, first, a small area of skin makes contact with the surface the fingers are gripping. Like the treads of a tire, the grooves channel the water out the way. Unlike the treads of a tire,</p>		

our finger pads are soft and so we are able to continue to increase the area of contact, reducing the size of the grooves as pressure increases and the water is cleared. This active increase in grip in response to moisture makes sense in species that regularly climb on damp and rainy surfaces like trees and rocks.
文獻引用 (REFERENCES)
參考文獻清單與連結 (REFERENCE LIST) <b>Harvard 或 APA 格式</b>
Changizi m, Weber r, Kotecha r, & Palazzo j. (2011). Are Wet-Induced Wrinkled Fingers Primate Rain Treads? <i>Brain Behav Evol.</i> ( <a href="https://www.dx.doi.org/10.1159/000328223">https://www.dx.doi.org/10.1159/000328223</a> )
延伸閱讀: Harvard 或 APA 格式 (取自 AskNature 原文; 若為翻譯者補充, 請註明)
生物系統延伸資訊連結 (LEARN MORE ABOUT THE LIVING SYSTEM/S)
撰寫/翻譯/編修者與日期
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AskNature 原文連結
<a href="https://asknature.org/strategy/wrinkled-fingertips-enhance-grip/">https://asknature.org/strategy/wrinkled-fingertips-enhance-grip/</a>

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