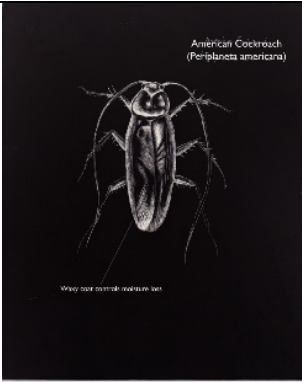


生物策略表

類別	生物策略 (Strategy)
生物策略 STRATEGY	蠟質外層控制水分散失 (Waxy coat controls moisture loss)
生物系統 LIVING SYSTEM	美國蟑螂 <i>Periplaneta americana</i> (American cockroach)
功能類別 FUNCTIONS	#改變材料特性 #保護免受過多液體危害 #保護免受液體流失危害 #Modify material characteristics #Protect from excess liquids #Protect from loss of liquids
作用機制標題	蟑螂的外表皮透過一層蠟質層，使水分的流失具有溫度控制的可變性 (The cuticle of cockroaches allows temperature-controlled variability of moisture loss via a waxy coat)
生物系統/作用機制 示意圖	 <p>A detailed scientific illustration of an American Cockroach (Periplaneta americana) from a dorsal perspective. The insect is shown against a dark background. Above the insect, the text reads 'American Cockroach (Periplaneta americana)'. Below the insect, the text reads 'Waxy coat controls moisture loss'.</p>
作用機制摘要說明 (SUMMARY OF FUNCTIONING MECHANISMS)	
文獻引用 (REFERENCES)	
<p>「Ramsay (1935) 表示水不能經由滲透出入蟑螂體內，歸因於一層位於表面薄而明顯流動的脂質。在特定的溫度下（約攝氏 30 度），這層脂質似乎會進行相性的改變，進而使水能自由地通過它。這個有趣的觀察未曾在其他的昆蟲身上被證實。這也形為了現時相關研究的起始點。」 (Wigglesworth 1945: 97)</p> <p>“It was shown by Ramsay (1935) that the cockroach owes its impermeability to water to a thin and apparently mobile layer of lipid on its surface. At a critical temperature of about 30° C, this lipid seems to undergo a change of phase, and it then allows water to pass freely through it. This interesting observation has never been confirmed on other insects. It forms the starting-point of the present study.” (Wigglesworth 1945: 97)</p>	
參考文獻清單與連結 (REFERENCE LIST)	
Wigglesworth, V. B. (1945). Transpiration through the cuticle of insects. <i>Journal of Experimental Biology</i> 21: 97-114.	
延伸閱讀: Harvard 或 APA 格式	

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

簡茵君翻譯 (2020/04/12)；許秋容編修 (2020/06/01)；譚國銜編修 (2020/06/09)

AskNature 原文連結

<https://asknature.org/strategy/waxy-coat-controls-moisture-loss/>