

生物策略格式

KJC, 2019/10/21

類別	生物策略 (Strategy)
生物策略 STRATEGY	以溝槽蒐集水分 (Trenches gather water)
生物系統 LIVING SYSTEM	擬步行蟲 Tenebrionidae (Darkling beetles)
功能類別 FUNCTIONS	#獲取、吸收、或過濾液體 #Capture, absorb or filter liquids
作用機制標題	飛碟溝甲蟲藉由高於沙表面的邊緣及垂直於含霧風的溝槽設計來蒐集水分 (Trenches created by the flying saucer trench beetle collect water because the edges are above the sand surface and perpendicular to fog-bearing wind.)
生物系統/作用機制 示意圖	
作用機制摘要說明 (SUMMARY OF FUNCTIONING MECHANISMS)	
文獻引用 (REFERENCES)	
<p>「第三種方法是直接從飽含霧氣的沙中吸收水分。其中 <i>Lepidochora</i> 屬的物種所採用的方式最為細緻。在起霧期間，這種扁平圓形的短腳甲蟲會在潮濕沙表面建造 2-4 mm 深的淺溝。溝槽邊緣高於沙表面，且垂直於含霧風的方向，可獲得比周遭未受干擾的沙子更高的水分。接著甲蟲會沿著溝槽的邊緣返回，在吸收其中部分濕氣時，也同時把溝槽整平。」 (Seely 1979: 219-220)</p> <p>“A third method involves uptake of free water directly from fog-moistened sand. The most elaborate procedure is used by the genus <i>Lepidochora</i> (Seely and Hamilton, 1976) (Fig. 3 c). These flat, circular, short-legged beetles construct a shallow trench 2-4 mm deep in the moist sand surface during fogs. The ridges of the trench, elevated above the sand surface and oriented perpendicularly to the direction of the fog-bearing wind, attain a higher water content than the undisturbed surrounding sand. The beetles then return along the trench ridge, flattening it as they extract part of this moisture.” (Seely 1979: 219-220)</p>	
參考文獻清單與連結 (REFERENCE LIST)	

Seely, M.K. (1979). Irregular fog as a water source for desert dune beetles. *Oecologia* 42: 213-227. (<https://link.springer.com/article/10.1007/BF00344858>)

Seely, M.K. and W. J. Hamilton. (1976). Fog catchment sand trenches constructed by tenebrionid beetles, lepidochora, from the namib desert. *Science* 193:484-486. (<https://science.sciencemag.org/content/193/4252/484>)

延伸閱讀:

生物系統延伸資訊連結 (LEARN MORE ABOUT THE LIVING SYSTEM/S)

<https://en.wikipedia.org/wiki/tenebrionidae>

文章貢獻/編修者與日期:

曾偉哲翻譯 (2019/04/29) ; 朱天愛編修 (2019/12/19) ; 吳皓編修 (2020/01/04) ; 譚國銜編修 (2020/05/26) ; 紀凱容編修 (2020/11/26) ; 施習德編修 (2020/12/26)

AskNature 原文連結

<https://asknature.org/strategy/trenches-gather-water/>