生物策略表

類別	生物策略 (Strategy)
生物策略 STRATEGY	以膨脹作為保護 (Inflating for protection)
生物系統 LIVING SYSTEM	二齒魨科 Diodontidae (Porcupine fishes)
功能類別 FUNCTIONS	#改變大小/形狀/重量/體積 #保護免受動物危害 #Modify size/shape/mass/volume #Protect from animals
作用機制標題	刺魨利用喝水使嵌入皮膚的尖刺豎起，藉此抵禦掠食者 (The skin of a porcupine fish protects from predators via embedded spines that erect when the fish inflates using sips of water.)
生物系統/作用機制 示意圖	

作用機制摘要說明 (SUMMARY OF FUNCTIONING MECHANISMS)

「另一個關於反應性包裝的想法來自於刺魨。牠們嵌入皮膚的尖刺，只有在受到威脅的時候才會豎立。為了觸發膨脹，刺魨會喝入一小口的水。包裹在開始墜落時可藉由相同的方式吸入空氣來引起膨脹，而當包裹碰撞地面時其表面的尖刺能彈起，達到緩衝的效果。」(仿生協會未出版報導)

"Another responsive packaging idea comes from porcupine fish. Their spines are set into the skin, erecting only when the fish is threatened. To trigger the inflation, they sip tiny gulps of water. A package that started to fall might be induced to puff up in the same way with air, bouncing on spines when it hit the ground." (Biomimicry Guild unpublished report)

文獻引用 (REFERENCES)

參考文獻清單與連結 (REFERENCE LIST)

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/Porcupinefish https://www.onezoom.org/life/@Tetraodontiformes=36216#x1162,y-15,w1.0788 https://eol.org/pages/5060
撰寫/翻譯/編修者與日期
莊淮淂翻譯 (2020/05/07) ；譚國鋆編修 (2020/06/02) ；許秋容編修 (2020/ 06/22)
AskNature 原文連結
https://asknature.org/strategy/inflating-for-protection/