

## 生物策略表

類別	生物策略 (Strategy)
生物策略 STRATEGY	結構產生色彩鮮艷的羽毛 (Structures create colorful feathers)
生物系統 LIVING SYSTEM	翠鳥 <i>Alcedo atthis</i> (Kingfisher)
功能類別 FUNCTIONS	#改變光線/顏色 #Modify light/color
作用機制標題	翠鳥藉色素顆粒、海綿狀奈米結構及薄膜而產生色彩鮮艷的羽毛 (Feathers of the common kingfisher create colorful feathers due to pigment granules, spongy nanostructures, and thin films.)
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>翠鳥鮮艷的色彩是由兩種類型的羽枝 (feather barb) 產生：一種以色素顆粒填充，而另一種則是以準規律 (quasi-ordered) 通道型 (channel-type) 的角質海綿 (keratinous sponge) 所填充。皮層寬頻的背景光反射造成閃亮光澤的羽毛，尤其當羽毛以傾斜的方向被照射時。(Stayenga et al. 2011: 3966)</p> <p>“The bright colours of the common kingfisher <i>A. [Alcedo] atthis</i> are created by two types of feather barb: one filled with pigment granules and the other with quasi-ordered channel-type keratinous sponges. A broad-band background reflection is added by the cortex of the shiny feathers, especially when the feathers are illuminated from oblique directions.” (Stayenga et al. 2011: 3966)</p>	
參考文獻清單與連結 (REFERENCE LIST)	
<p>Stavenga, D. G., J. Tinbergen, H. L. Leertouwer and B. D. Wilts. (2011). Kingfisher feathers - colouration by pigments, spongy nanostructures and thin films. <i>Journal of Experimental Biology</i> 214: 3960-3967. (<a href="https://jeb.biologists.org/content/214/23/3960">https://jeb.biologists.org/content/214/23/3960</a>)</p>	

<b>延伸閱讀</b>
<b>生物系統延伸資訊連結 (LEARN MORE ABOUT THE LIVING SYSTEM/S)</b>
<a href="https://en.wikipedia.org/wiki/alcedo_atthis">https://en.wikipedia.org/wiki/alcedo_atthis</a> <a href="https://www.onezoom.org/life/@alcedo_atthis">https://www.onezoom.org/life/@alcedo_atthis</a> <a href="https://eol.org/pages/1178564">https://eol.org/pages/1178564</a>
<b>撰寫/翻譯/編修者與日期</b>
譚國銓翻譯 (2021/03/22)；阮文滔編修 (2021/04/12)
<b>AskNature 原文連結</b>
<a href="https://asknature.org/strategy/structures-create-colorful-feathers/">https://asknature.org/strategy/structures-create-colorful-feathers/</a>