生物策略格式

類別	生物策略 (Strategy)
生物策略 STRATEGY	利用顎吞下巨大獵物 (Jaw swallows large prey)
生物系統 LIVING SYSTEM	蟒蛇 *Python* (Pythons)
功能類別 FUNCTIONS	#獲取、吸收、或過濾生物 #改變大小/形狀/質量/體積 #Capture, absorb, or filter organisms #Modify size/shape/mass/volume
作用機制標題	因為蟒蛇的下巴具有多桿連鎖，因此他的顎可以吞下巨大的獵物 (The jaws of pythons allow the snakes to swallow huge prey because of their multibar linkages.)
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）

「我們所屬的哺乳類動物很少利用多桿連鎖 (multibar linkage)，但許多其他脊椎動物都依賴此機制。而其中最著名的是蛇類，牠們可以吞食大小超過自身直徑和橫截面的獵物。Frazzetta (1966) 仔細分析了蟒蛇 （蟒蛇屬 *Python*）是如何運作的，他認為牠們的頭骨和顎骨之間有不少於八條的連接桿。蟒蛇頭部兩側各有一條靈活度很大的連接可以使用。這樣的構造使蟒蛇的口部有足夠的延伸度。此種裝置使其口能張大到可以容納巨大的獵物，然後再悠閒的消化掉獵物。」 (Vogel 2003: 400-401)

"We mammals make no great use of multibar linkages, but a lot of other vertebrates depend on them. The most famous are snakes that can swallow items of prey whose diameters and cross sections exceed those of themselves. How pythons (genus *Python*) manage was carefully analyzed by Frazzetta (1966), who regarded their skull and jaws as linkages with no fewer than eight bars. Such snakes use two such linkages, one on each side of the head, with a lot of flexibility in between. The setup permits the mouth to gape sufficiently to accommodate huge

prey, which then get digested at leisure." (Vogel 2003: 400-401)

參考文獻清單與連結（REFERENCE LIST）

Vogel, S. (2013). *Comparative biomechanics: lifes physical world*. Princeton, NJ: Princeton University Press.

Frazzetta, T. H. (1966). Studies on the morphology and function of the skull in the boidae (Serpentes). Part II. Morphology and function of the jaw apparatus in *Python sebae* and *Python molurus*. *Journal of Morphology* 118: 217–295.

延伸閱讀

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

文章貢獻/編修者與日期

朱天愛翻譯（2020/04/16）；譚國鎏編修 (2020/06/02)；許秋容編修 (2020/06/18)

AskNature 原文連結

https://asknature.org/strategy/jaw-swallows-large-prey/