生物策略表

類別	生物策略 (Strategy)
生物策略 STRATEGY	肌腱儲存能量 （Tendons Store Energy）
生物系統 LIVING SYSTEM	嬰猴科嬰猴屬 Bushbabies and galagos
功能類別 FUNCTIONS	#獲取、吸收或濾過能量 #Capture, Absorb, or Filter Energy #儲存能量 #Store Energy #分配能量 #Distribute Energy
作用機制標題	嬰猴的腿通過將能量儲存在肌腱中，使其能夠跳躍十二倍於身體長度的長度。 (The legs of the bushbaby allow it to jump twelve times its body length by storing energy in tendons.)
生物系統/作用機制示意圖 (確認版權、註明出處；畫質)	 ”  Image: Richard Mortel / Flickr / CC BY - Creative Commons Attribution alone

作用機制摘要說明 (SUMMARY OF FUNCTIONING MECHANISMS)
這些敏捷的生物可以在非洲撒哈拉以南的林地和大草原地區以及附近島嶼的樹枝間快速跳躍。它們是小型（18 厘米/7 英寸）靈長類動物，有厚厚的毛茸茸的皮毛和大眼睛。嬰猴 (灰【犭+丘】) (bushbaby) 的一個顯著特徵是它可以跳到 2.25 m（7 英尺），這是它體長的 12 倍！叢林嬰兒在其後腿極其強壯、有彈性的肌腱的幫助下完成了這一壯舉。當嬰猴準備跳躍時，它會使用肌肉拉伸這些肌腱並在其中儲存彈性能量。然後當叢林嬰兒跳躍時，這些肌腱會像彈射器一樣釋放儲存的能量，幫助動物向前彈跳。長尾巴有助於在跳躍過程中控制叢林嬰兒。 These agile creatures can leap swiftly between the branches of trees in woodland and savannah regions of Africa south of the Sahara and on nearby islands. They are small (18 cm/7 in.) primates with thick, wooly fur and large eyes. One remarkable feature of the bushbaby is that it can jump up to 2.25 m (7 ft.), which is 12 times its body length! The bushbaby accomplishes this feat with the help of extremely strong, stretchy tendons in its back legs. When a bushbaby prepares to leap, it uses muscles to stretch those tendons and store elastic energy in them. Then when the bushbaby jumps, those tendons release their stored energy like catapults to help the animal spring forward. A long tail helps give the bushbaby control during the leap.
文獻引用 (REFERENCES)
叢林嬰猴（*Galago senegalensis*）以其驚人的跳躍能力而聞名……跳躍所需的大部分力量是由股肌-肌腱系統（膝伸肌）(the vastus muscle–tendon systems (knee extensor)) 提供的。然而，與外部關節力量的比較顯示，從伸肌（約 65%）通過雙關節小腿肌肉將重要的力量傳輸到腳踝和中足。峰值功率輸出可能意味著股肌複雜的腱膜系統的彈性回縮......這裡有人認為在準備蹲下和整個過程中，發達的股肌束的多個內部結締組織片和附著結構變得越來越伸展。擴展階段，除了推出的最後 13 毫秒（即當功率需求達到峰值時）。然後，膝關節伸肌的張力突然從最大值下降，使緊張的肌腱結構發生必要的快速回彈。 Bushbabies (*Galago senegalensis*) are renowned for their phenomenal jumping capacity…Most of the power required for jumping is delivered by the vastus muscle–tendon systems (knee extensor). Comparison with the external joint–powers revealed, however, an important power transport from this extensor (about 65%) to the ankle and the midfoot via the bi–articular calf muscles. Peak power output likely implies elastic recoil of the complex aponeurotic system of the vastus muscle…It is argued here that the multiple internal connective tissue sheets and attachment structures of the well–developed bundles of the vastus muscle become increasingly stretched during preparatory crouching and throughout the extension phase, except for the last 13 ms of the push–off (i.e. when power requirements peak). Then, tension in the knee extensors abruptly falls from its maximum, allowing the necessary fast recoil of the tensed tendon structures to occur.” (Aerts 1998:1607)
參考文獻清單與連結 (REFERENCE LIST) **Harvard 或 APA 格式**
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