


# 生物策略表

類別	生物策略 (Strategy)
生物策略 STRATEGY	黏液過濾食物用水 (Mucus Filters Water for Food)
生物系統 LIVING SYSTEM	尾海鞘綱 ( Appendicularia )
功能類別 FUNCTIONS	#捕獲、吸收或過濾固體 #捕獲、吸收或過濾液體 #儲存固體 #分配固體 #實體組裝結構 #Capture, Absorb, or Filter Solids #Capture, Absorb, or Filter Liquids #Store Solids #Distribute Solids #Physically Assemble Structure
作用機制標題	巨型尾海鞘迅速而有規律地用黏液，建造一個可過濾大量水的房子。 (The giant larvacean rapidly and regularly builds a house out of mucus capable of filtering large quantities of water.)
生物系統/作用機制 示意圖 (確認版權、註明出處；畫 質)	 <p>(圖片來源：asknature)</p>
作用機制摘要說明 (SUMMARY OF FUNCTIONING MECHANISMS)	

巨型尾海鞘 (larvacean) 是居住在大洋中層的眾多生物之一，它們有能力用自己的黏液建造家園。尾海鞘和它的家都是精緻而透明的——形狀像蝌蚪的尾海鞘和它的粘液房子是一個美麗的、水母狀的漂浮結構，圍繞著尾海鞘的身體。除了保護幼體，它的房子還用來收集和過濾食物。尾海鞘的房屋尺寸可以比它們大很多，有些房屋的直徑超過 39 英寸 (1 m)。

食品過濾器由透明結構蛋白和纖維素結合而成，位於房屋內部。水流從房屋的外部通過兩個入口流入該部分——在進入時被過濾——然後到達尾海鞘生活的房間。尾海鞘拍打它的尾巴，將水引向另一個過濾器，將適當大小的食物集中到另一個過濾器中，或者進入一個垃圾槽，將不正確大小的食物傾倒到房子的外部。從第二個過濾器中，恰到好處的食物直接進入尾海鞘的嘴裡。雖然這種巨型尾海鞘看起來很挑食，但它的食物實際上由大小不一的食物顆粒組成，從你需要用顯微鏡才能看到的細菌到你可以用肉眼看到的微型浮游動物。

The giant larvacean is one of many creatures inhabiting the mid-ocean layer that have the ability to create a home made out of their own mucus. Both the larvacean and its home are delicate and transparent—the larvacean shaped like a tadpole and its mucus house a beautiful, jellyfish-like floating structure surrounding the larvacean's body. In addition to protecting the larvacean, its house serves to collect and filter its food. Houses can outsize their larvaceans by quite a bit, with some measuring more than 39 inches (1 meter) across.

The food filter, built using transparent structural proteins combined with cellulose, is located within the interior section of the house. Water flows from the outer section of the house into this section through two entry points—filtered as it enters—and then reaches the chamber where the larvacean lives. The larvacean beats its tail to direct the water towards either another filter that concentrates food of the right size or into a garbage chute that dumps food that's not the right size into the outer section of the house. From the second filter, the food that is just right makes its way directly into the larvacean's mouth. While the giant larvacean may seem like a picky eater, its diet actually consists of food particles that range widely in size, from bacteria you'd need a microscope to see to microzooplankton you could potentially see with the naked eye.

#### 文獻引用 (REFERENCES)

“在海洋的中水 (midwater)，粘液結構很容易被許多動物分泌，並發揮著許多重要功能……在這些粘液形式中，尾海鞘的‘房子’是大自然的奇蹟，在大海的過度區，巨型尾海鞘分泌並建造 可以達到直徑超過 1 m 的粘液過濾結構。” (Katija et al. 2020:78)

“……巨型尾海鞘對生物幫浦有重大貢獻，並且在區域內負責從近地表水到深海底棲生物的碳通量的三分之一。” (Katija et al. 2017:1)

“In the midwaters of the ocean, mucoid structures are readily secreted by numerous animals, and serve many vital functions...Among these mucoid forms, the ‘houses’ of larvaceans are marvels of nature, and in the ocean twilight zone giant larvaceans secrete and build mucus filtering structures that can reach diameters of more than 1 m.” (Katija et al. 2020:78)

“...giant larvaceans contribute significantly to the biological pump and can be regionally responsible for as much as one-third of the carbon flux from near-surface waters to the deep benthos.” (Katija et al. 2017:1)

參考文獻清單與連結 (REFERENCE LIST) **Harvard 或 APA 格式**

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撰寫/翻譯/編修者與日期
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