

HKU marine ecologists name the first endemic tree-climbing crab, *Haberma tingkok*, from Tolo Harbour

港大海洋生態學家在吐露港發現及命名  
本港首種特有的樹棲蟹種 — 汀角攀樹蟹



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# Crab diversity in the world 全球蟹類多樣性



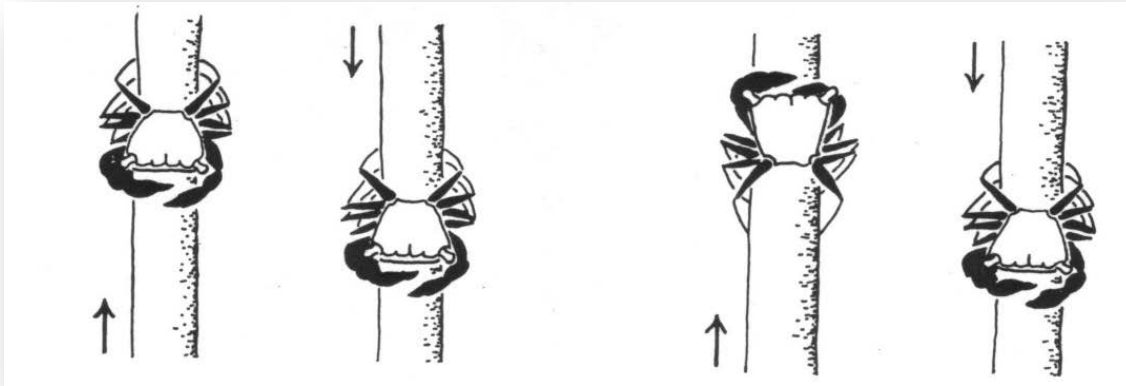
*Haberma tingkok*





## Not all crabs live underwater... the mangrove tree crabs

並非所有蟹種都住在水裡... 紅樹林的樹棲蟹種



*Selatium elongatum*, Kenya 肯亞



*Aratus pisonii*, Florida 美國佛羅里達



*Parasesarma leptosoma*, Kenya 肯亞



*Selatium brockii*, Tanzania 坦桑尼亞

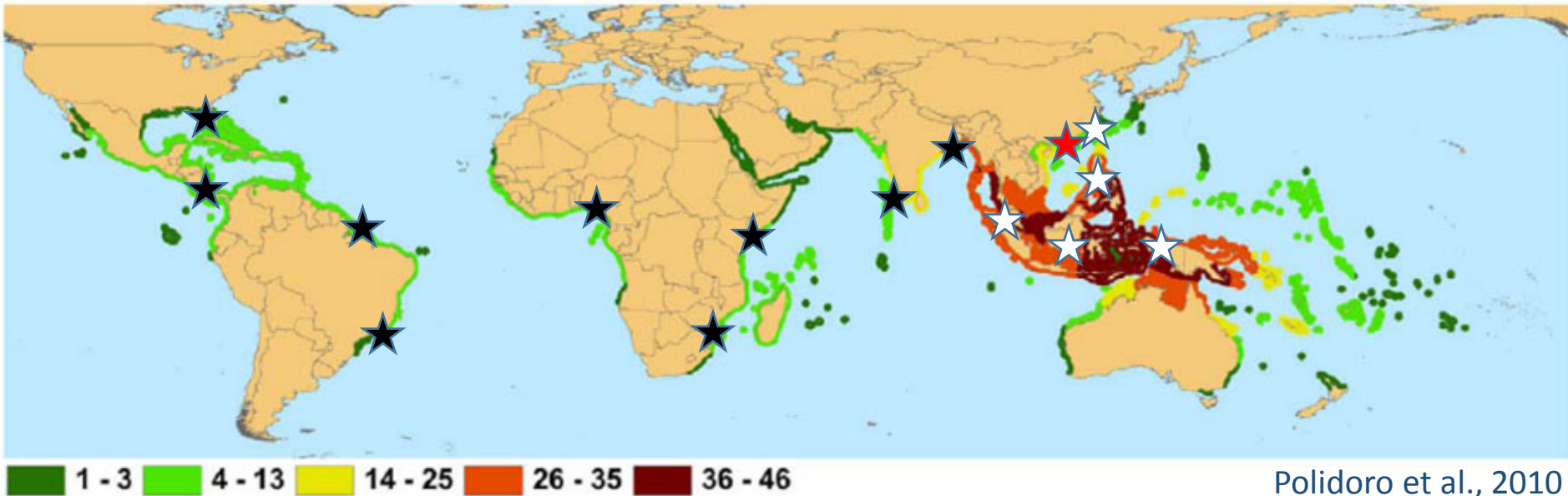
## Not all crabs live underwater... the mangrove tree crabs

*Haberma tingkok* is the first truly arboreal crab found in the mangroves of Hong Kong: an evolutionary milestone

汀角攀樹蟹是香港首種發現的樹棲蟹：一個演化的里程碑



## Worldwide distribution and diversity of mangroves 全球紅樹林的分佈和多樣性



## Haberma tingkok: characteristics 汀角攀樹蟹的特徵

1. The **first species** of the *Haberma* genus that is **arboreal**;  
*Haberma*屬的首個樹棲蟹種
2. The **first species** of the genus that is **subtropical** (low diversity of mangroves)  
同一屬內首個居於亞熱帶（紅樹林的多樣性較低）的蟹種



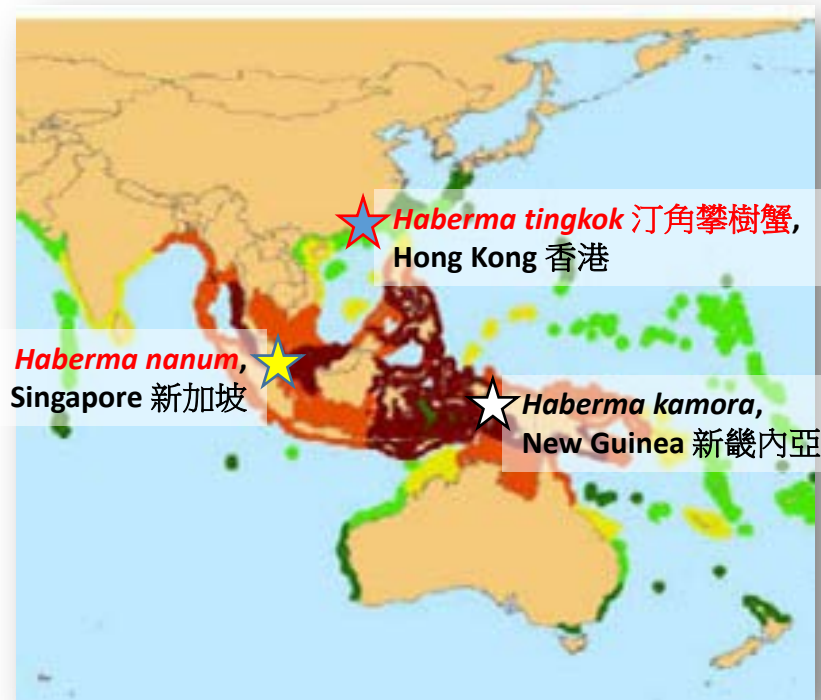
### *Haberm nanum*

The **first** described crab of the genus *Haberma*, from **Singapore**  
首個*Haberma*屬的蟹種，在新加坡發現



### *Haberma tingkok* 汀角攀樹蟹

Found in this study in **Hong Kong** 於本次研究在香港發現



*Haberma tingkok* 汀角攀樹蟹,  
Hong Kong 香港



*Haberm nanum*,  
Singapore 新加坡



*Haberma kamora*,  
New Guinea 新畿內亞

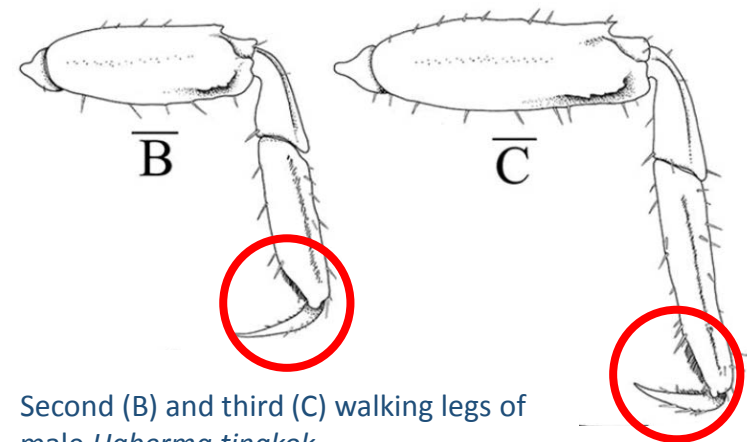


## *Haberma tingkok*: characteristics 汀角攀樹蟹的特徵

- ✓ A small crab, less than a centimetre long, predominantly dark brown, with a squarish carapace, very long legs and orange claws.  
非常細小，身長少於1厘米，身體主要是深棕色，擁有一個方形甲殼、很長的足和橙色的螯
- ✓ A very unusual 'locking system' in males' legs, probably to grasp females during mating  
雄蟹足部擁有特殊的鎖定系統，可能是用作在交配時抓住雌性



Photo by Martin Cheng



Second (B) and third (C) walking legs of male *Haberma tingkok*

雄蟹的第二對 (B) 和第三對 (C) 步行足

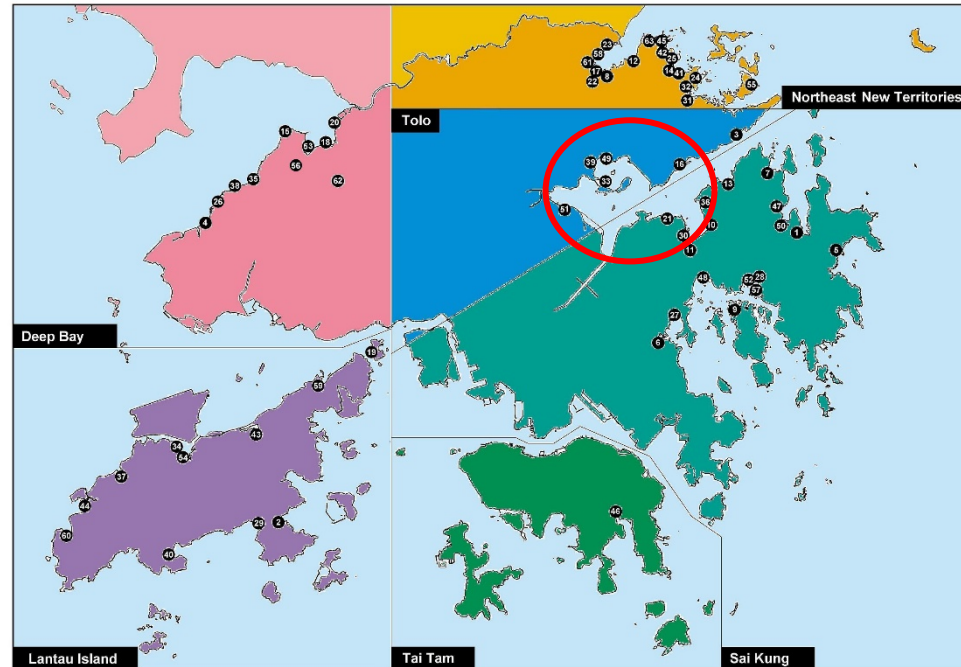
# Haberma tingkok: characteristics 汀角攀樹蟹的特徵

*Haberma tingkok* natural habitat:  
the branches of the mangrove tree  
*Kandelia obovata*

汀角攀樹蟹的生境：秋茄樹的枝幹



1. Chek Keng 赤鯉
2. Chi Ma Wan 芝麻灣
3. Fung Weng Wai 咸魚灣
4. Ha Pak Nai 下海泥
5. Nam Tin 鹹田
6. Ho Chung 鹹港
7. Hoi Ha Wan 海峽
8. Kau Sai Chau 蠔洲
9. Kau Sai Chau 蠔洲
10. Kai Ling Ha Hoi 金鐘子海
11. Kai Ling Ha Hoi 金鐘子海
12. Kiek Po 橋埔
13. Lei Chi Chung 荔枝林
14. Lau Chi Wan 流枝灣
15. Liu Fui Shan 流浮山
16. Lo Fu Wai 老龍灣
17. Luk Kwang 綠光
18. Lut Chau 綠洲
19. Ma Wan 馬灣
20. Ma Po 馬婆
21. Nai Chung 泥涌
22. Nam Chung Yeung Uk 南港橋
23. Ngau Tau 牛頭灣
24. Ngau Shi Wu Wan 牛車灣
25. Pak Kok Wan 白角灣
26. Pak Nai 白角
27. Pak Sha Wan 白沙灣
28. Pak Tam Chung 白潭
29. Pak O Wan 白鵝灣
30. Sai Keng 沙井
31. San A Chung 三和
32. San A Tsuen 三和
33. San Mun Tsi 三門仔
34. San Tau 沙頭
35. Sha Keng Tsuen 沙井村
36. Sham Chung 咸湖
37. Sham Wan 沙灣
38. Sheung Pak Nai 上白泥
39. Shuen Wan 船灣
40. Shui Hui 水尾
41. Siu Tan 水塘
42. So Lo Pun 蘇洛
43. Tai Ho Wan 大滘灣
44. Tai O 大澳
45. Tai Sham Chung 大潭
46. Tai Tam 大潭
47. Tai Tam 大潭
48. Tai Wan 大潭
49. Ting Kok 汀角
50. To Kwa Peng 土瓜灣
51. Tolo Pond 吐露港
52. Tsam Che Wan 鐵甲灣
53. Tien Bei Tsui 天貝
54. Tung Chung 洞
55. Tung Wan 洞
56. Wetland Park 濕地公園
57. Wong Yi Chau 黃宜洲
58. Yau Sha Kwei 漁船灣
59. Yan O 鹽田
60. Yi O 鹽田
61. Yim Tsoi Ho 鹽田
62. Yuan Long Industrial Estate 元朗工業村
63. Yung Shue Au 龍鼓灘





## *Haberma tingkok*: characteristics 汀角攀樹蟹的特徵

- ✓ It is **endemic** of (has only been found in) Hong Kong;  
本港紅樹林特有蟹種（迄今為止只在香港出現）
- ✓ It is **one of the ONLY two** mangrove crab species endemic in Hong Kong, the other being *Pseudosesarma patshuni*  
繼帕氏假相手蟹後，由香港描述的第二種本港紅樹林特有蟹種



*Haberma tingkok* Cannicci & Ng, 2017

汀角攀樹蟹

Carapace length 甲殼長度: 8.5 mm 毫米

Location 地點: Tolo Harbour mangroves 吐露港紅樹林

Abundance 數量: Rare 罕有



*Pseudosesarma patshuni* Soh, 1978

帕氏假相手蟹

Carapace length 甲殼長度: 14.5 mm 毫米

Location 地點: Sham Chung 深涌, Tai Tan 大灘, To Kwa Peng 土瓜坪

Abundance 數量: Locally abundant 在這些地點數量豐富



## ***Haberma tingkok*: why is important? 汀角攀樹蟹的重要性**

1. This discovery shows that mangroves in highly urbanized areas are still a reservoir for biodiversity  
位於高度城市化地區的紅樹林仍然存有豐富的生物多樣性
2. It also shows a new and unknown evolutionary pathway to tree climbing in crabs  
研究顯示蟹種的攀樹行為是一個全新而未知的進化途徑
3. Mangroves are evolutionary biology laboratories in the field!  
紅樹林是研究進化生物學的實驗室



# Assessing the Marine Biodiversity and Ecology of Tolo Harbour and Channel, with Particular Reference to Coastal Marine Environments of Ting Kok and Shuen Wan Hoi – Phase I

吐露港及赤門海峽  
(特別是汀角和船灣海沿岸海洋環境)  
的海洋生態及生物多樣性研究  
第一階段研究

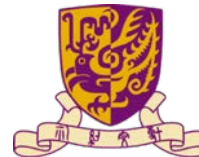
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# Study objectives 研究目的

To assess the current status of marine coastal communities in Tolo Harbour and Channel through:

藉著以下途徑評估吐露港及赤門海峽海岸生態的現況：

1. Building a **multi-disciplinary** team 建立一個跨學科的團隊
2. Creating a central, catalogued **species inventory** 建立物種資料庫
3. Documenting **temporal and spatial variations** in marine biodiversity 記錄物種於空間和時間上的變化
4. Identifying **threatened, rare or endemic species** and biological communities 辨別瀕危／罕有／原生的物種和群落
5. Identifying **hotspot(s) of marine biodiversity** and sites of special value 找出海洋生態熱點的位置
6. Assessing the **economic value** of marine resources 評核海洋資源的經濟價值
7. Establishing the study as a **template of good practice** for future biodiversity assessments 訂定標準研究方法，可作為生物多樣性評估之用

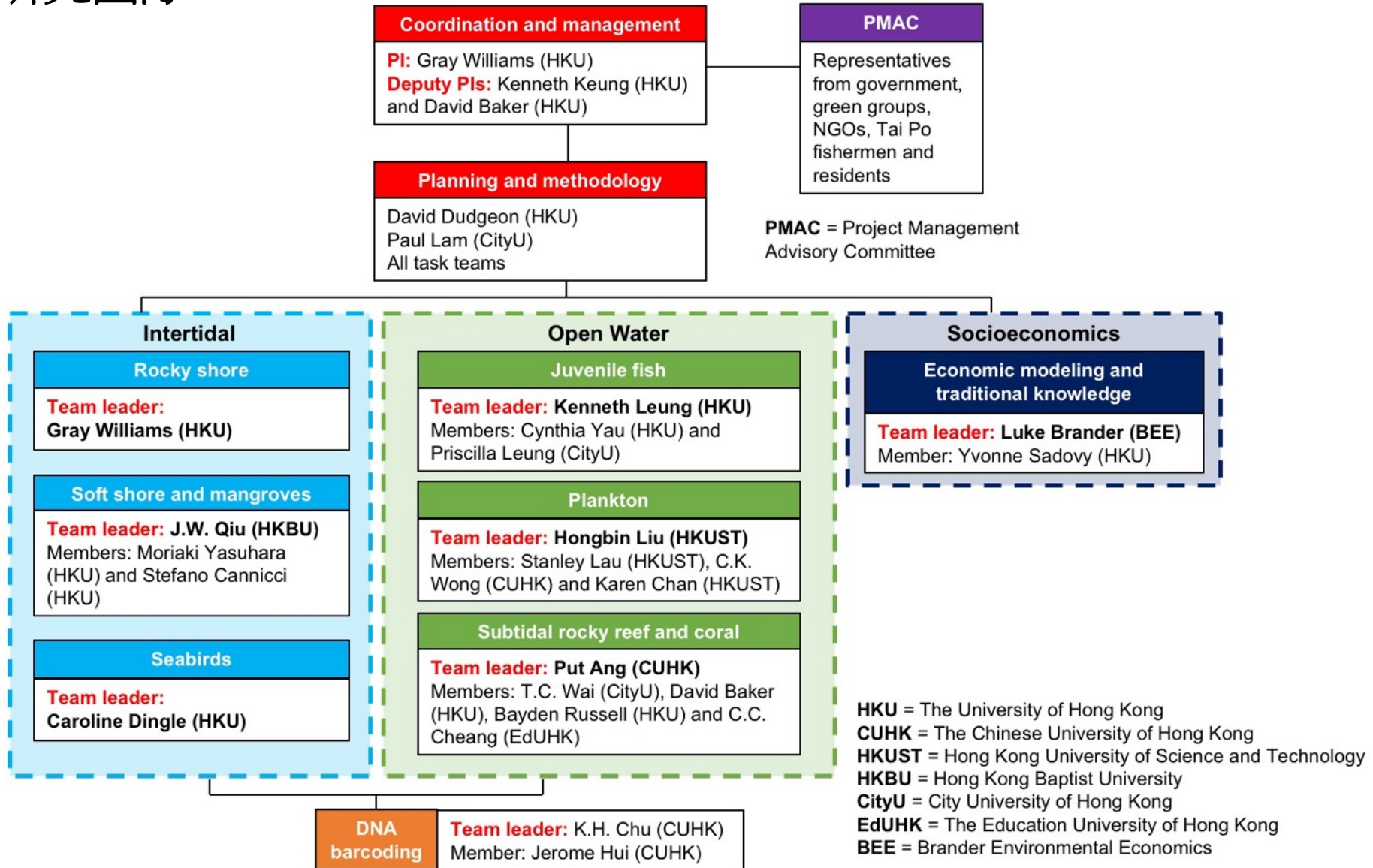


Convention on  
Biological Diversity



# Organization chart of project team

## 研究團隊







# Mangrove Ecology and Evolution Laboratory

## 紅樹林生態與進化實驗室

The Swire Institute of Marine Sciences and School of Biological Sciences, HKU

We are interested in various aspects of mangrove ecology and crab biology.

Our research aims to study the patterns of diversity of crabs and molluscs in Hog Kong, East African and South East Asian mangroves, their role in ecosystem functioning and their resilience to anthropogenic pollution and climate change.

研究興趣：紅樹林生態學和螃蟹生物學各個範疇

實驗室團隊旨在研究香港、東非和東南亞紅樹林中螃蟹和軟體動物的多樣性，牠們在生態系統功能中的作用，以及應對污染和氣候變化的韌性。



# Hong Kong mangroves: where are they now?

## 香港紅樹林的現況



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# The goals 研究目標

1. to compile a novel and updated database of mangrove biodiversity of Hong Kong  
整合一個全新的香港紅樹林生物多樣性數據庫
2. to create a **reference collection of all keystone mangrove invertebrate species for Hong Kong** (to be maintained in the developing Biodiversity Centres both at SWIMS and at SBS, HKU) 為香港建立紅樹林無脊椎動物的標本室
3. to obtain the **DNA barcode for all the marine species colonising Hong Kong mangroves** and to create a **DNA reference collection** (to be maintained in the developing Biodiversity Centres at SWIMS) 取得香港紅樹林物種的基因條碼，並建立基因資料庫
4. to update the newly launched Hong Kong Register of Marine Species (HKRMS), founded by SWIMS and funded by ECF and implement the Mangrove Reference Database and Herbarium (of which SWIMS is already a partner) 更新剛建立的香港海洋物種資料庫
5. and, ultimately, to incorporate all the information into a **marine GIS system for Hong Kong marine habitats**, which is being planned as a collaboration between SWIMS and AFCO 將香港海洋生態資料整合到一個海洋地理資訊系統

## Why mangroves? 為甚麼是紅樹林？

Mangroves are endangered by 紅樹林正受到以下威脅

- Land reclamation 填海
- Water pollution 水體污染
- Industrial pollution 工業污染





# Why mangroves? 為甚麼是紅樹林？

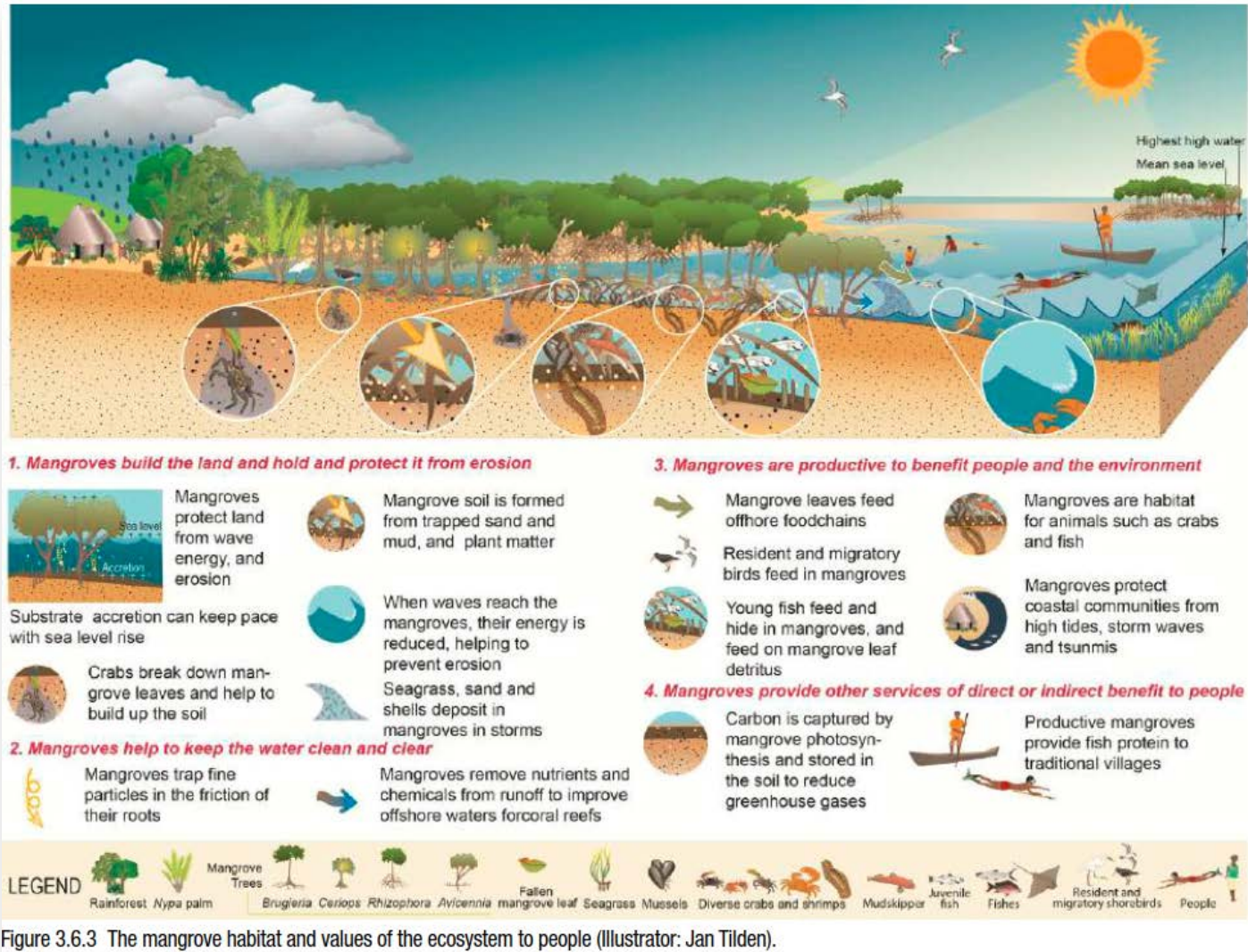


Figure 3.6.3 The mangrove habitat and values of the ecosystem to people (Illustrator: Jan Tilden).

紅樹林生境和生態系統對人類的價值



## Why mangroves? 為甚麼是紅樹林？

**In Hong Kong only few are protected:**  
在香港，只有少數的紅樹林受到保護：

**Mai Po (Ramsar Site) 米埔（拉姆薩爾濕地）**

**Sites of Special Scientific Interest (SSSI) 具特殊科學價值地點**

- **Ting Kok 汀角**
- **Kei Ling Ha 企嶺下**

**While in many cases they are considered wastelands (rubbish bins) in many parts of Hong Kong and Mainland China.**

而在很多情況下，許多在香港和中國大陸的紅樹林都被視為廢土和垃圾場。



# The Hong Kong perspective

Hong Kong is biodiverse!

Full of diversity, which is yet to be discovered

Our habitats are still hiding secrets and are still alive and functional

香港擁有豐富的生物多樣性，但仍然隱藏著不少秘密，因此尚待我們去發掘！

