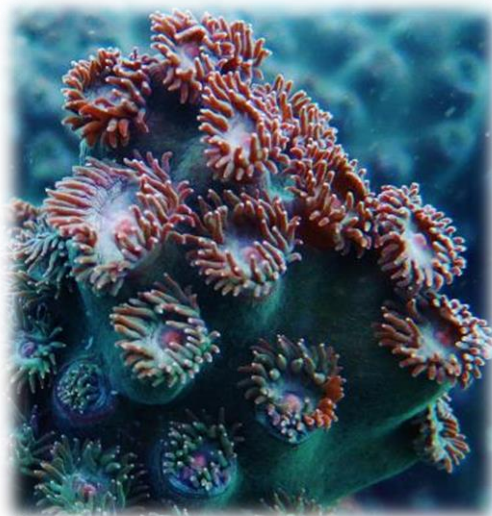


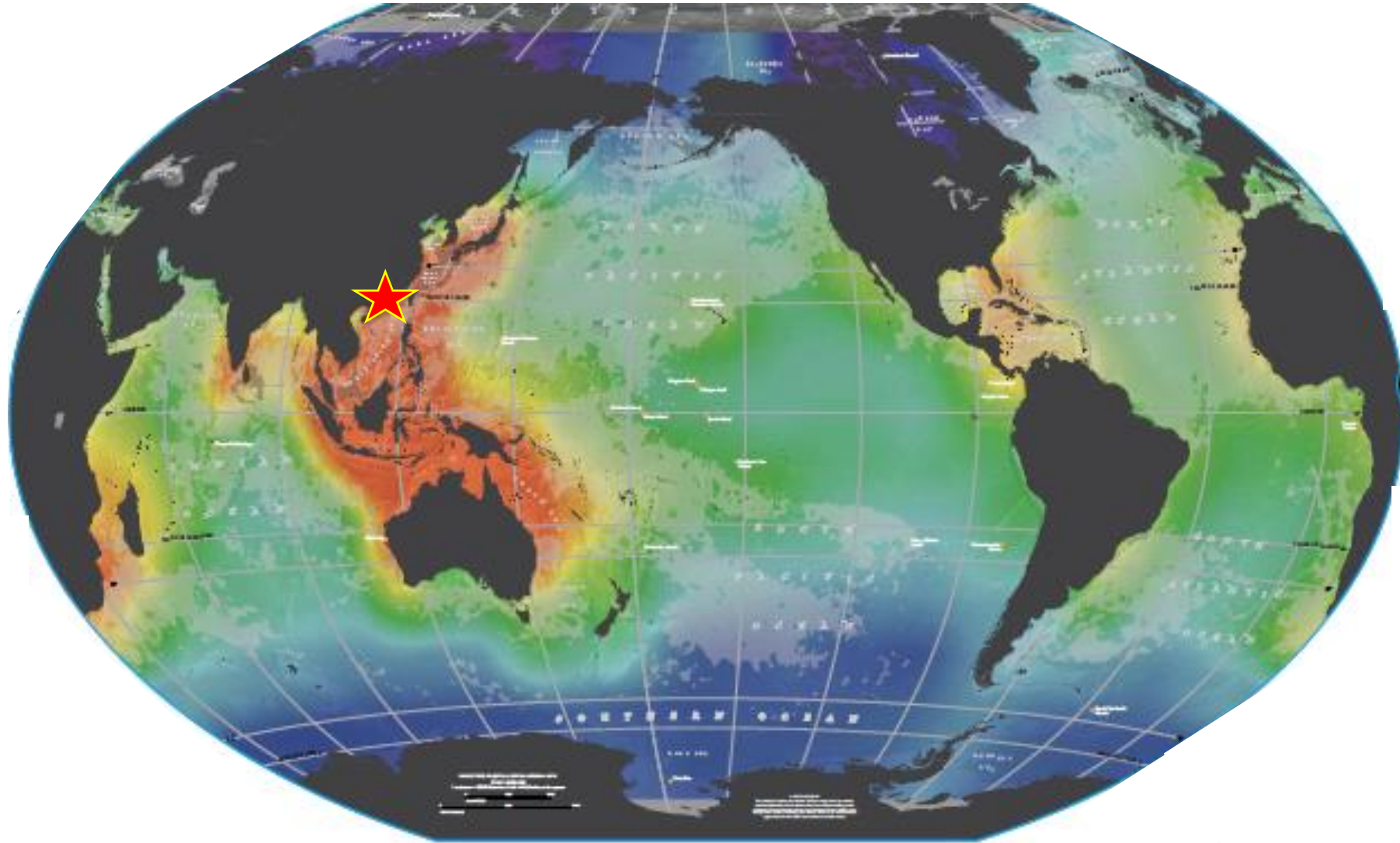


Hong Kong hosts more than $\frac{1}{4}$ of all marine species recorded in China

香港錄得全中國逾四分之一的海洋物種



We know Hong Kong is situated within the World's marine biodiversity hotspot **hotspot**
我們知道香港位於世界海洋生物多樣性**熱點**範圍內



Census of Marine Life 海洋物種普查 (National Geographic 國家地理雜誌 2010)

But...we don't know how many marine species we
have in Hong Kong
但是...我們卻不知道香港有多少海洋物種

It has taken us **more than 70 years** to find the answer...
我們足足等了**超過70年**才找到答案...



A review of marine biodiversity and ecological surveys in Hong Kong

香港海洋生物多樣性及生態調查綜述

Reviewed **more than 640** publications of Hong Kong's marine biodiversity
參考了**超過640**份有關香港海洋生物多樣性的文獻

Biodivers Conserv
DOI 10.1007/s10531-016-1224-5



REVIEW PAPER

Hong Kong's rich marine biodiversity: the unseen wealth of South China's megalopolis

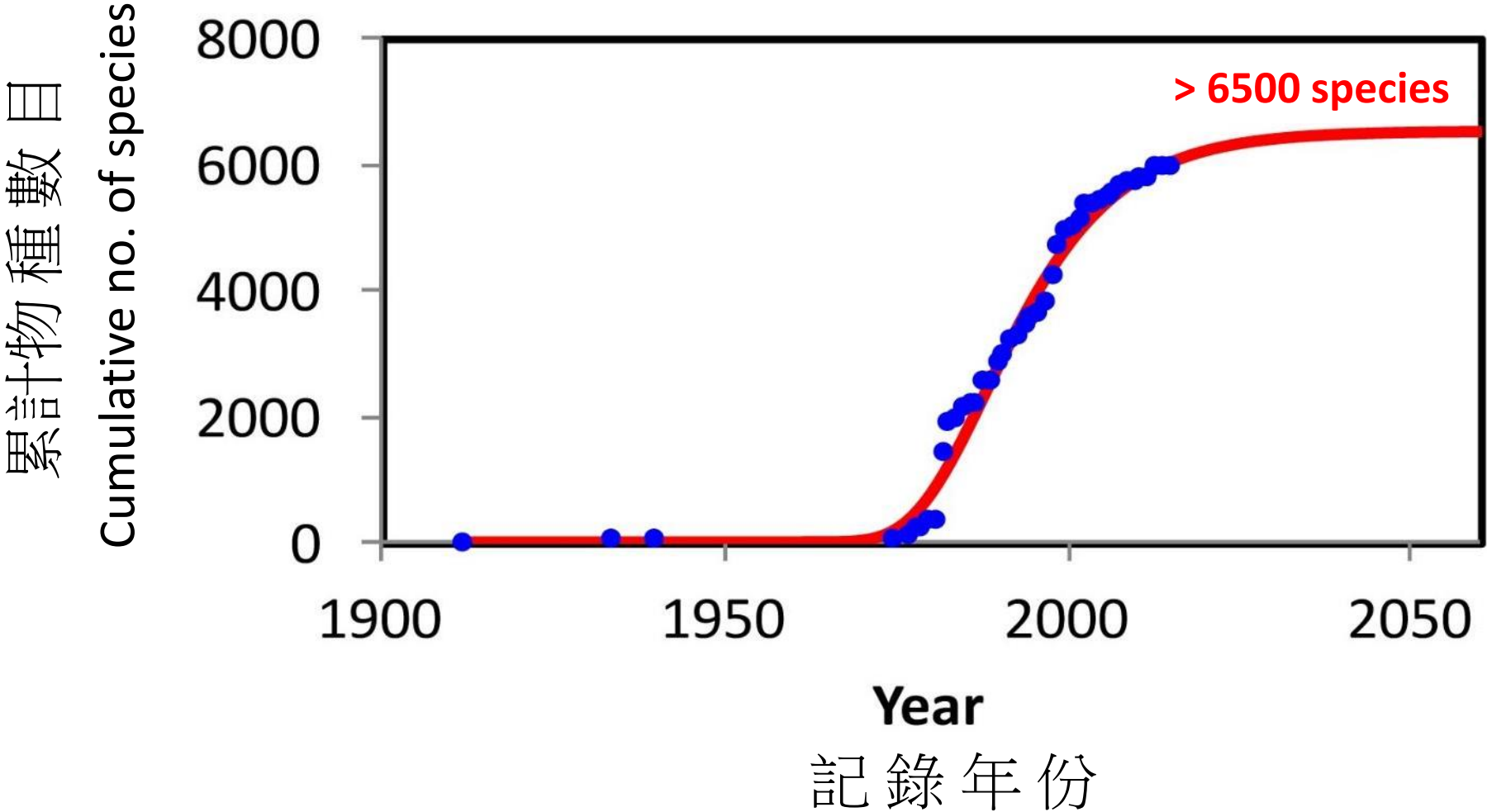
Terence P. T. Ng¹ · Martin C. F. Cheng¹ · Kevin K. Y. Ho¹ ·
Gilbert C. S. Lui² · Kenneth M. Y. Leung^{1,3} · Gray A. Williams¹



<<生物多樣性及保育>>

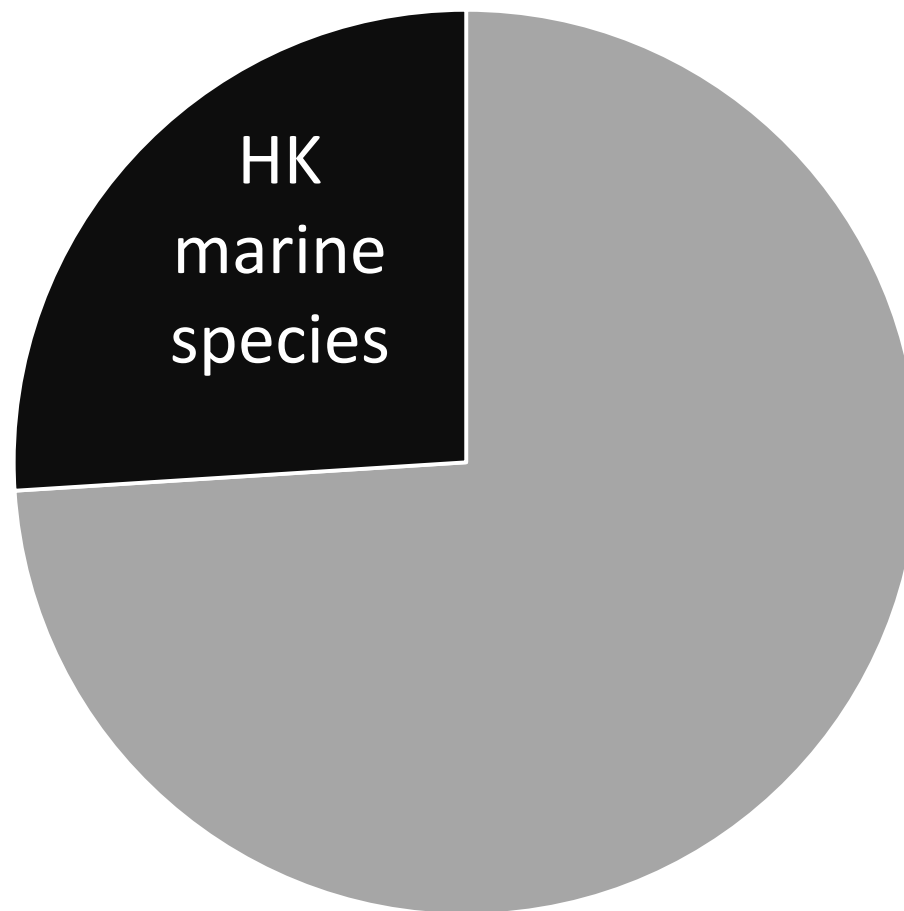
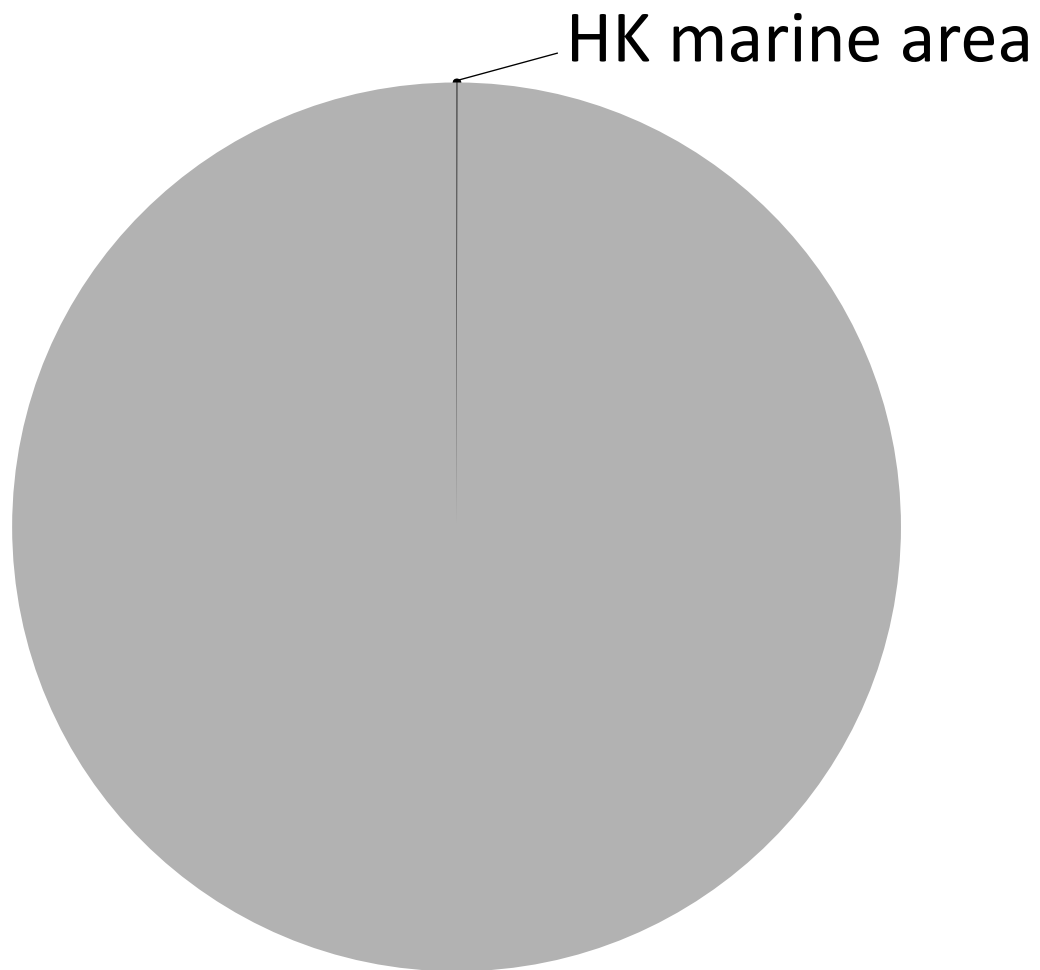
5943 marine species recorded in Hong Kong (estimated more than 6500 species)

香港錄到5943種海洋生物(估計共有超過6500種)



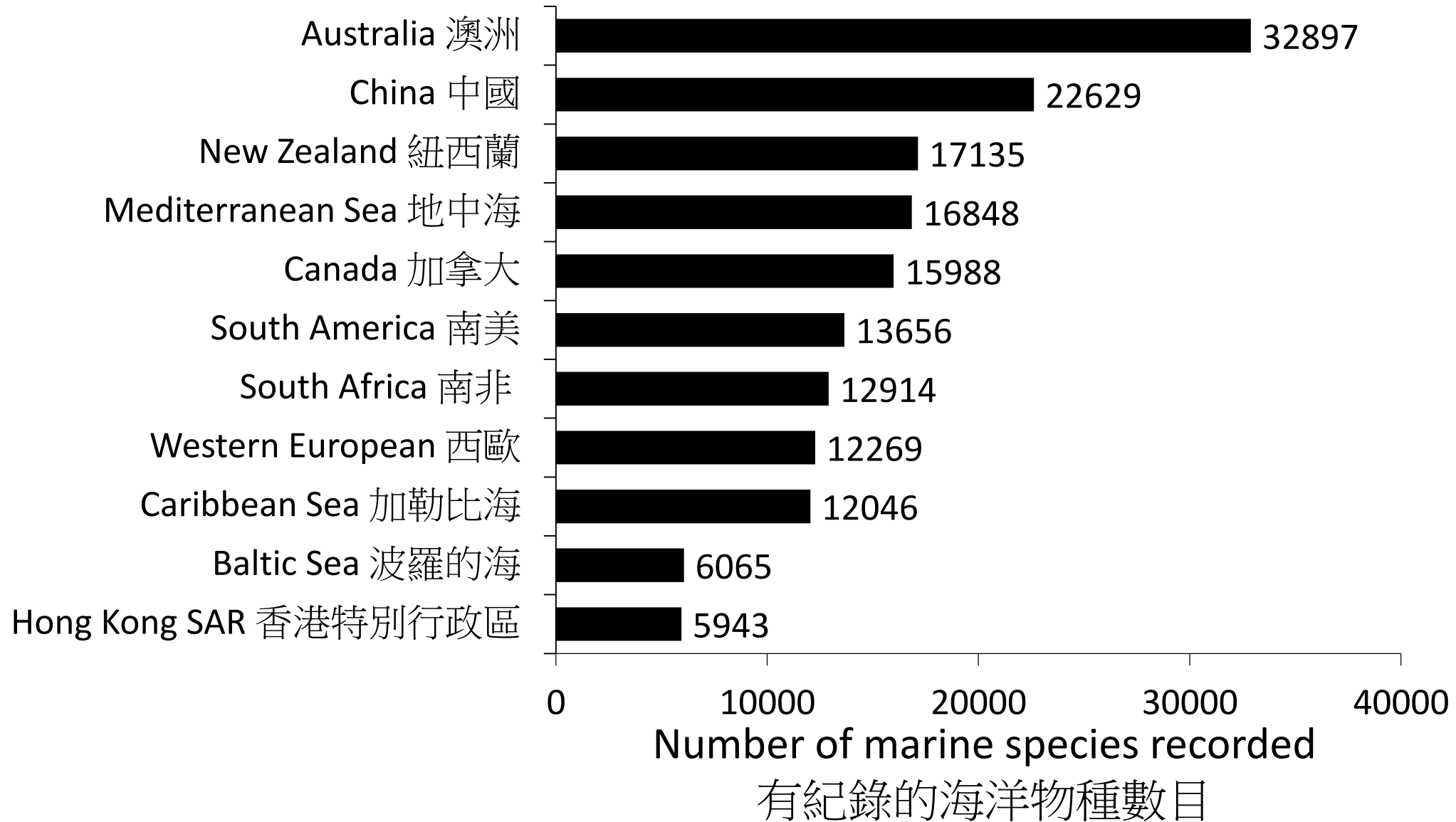
Hong Kong occupies **about 0.03%** marine area of China but contributes to **about 26%** of marine species recorded in China

香港海域只佔中國海域約**0.03%**,但它卻有約**26%**中國有紀錄的海洋物種



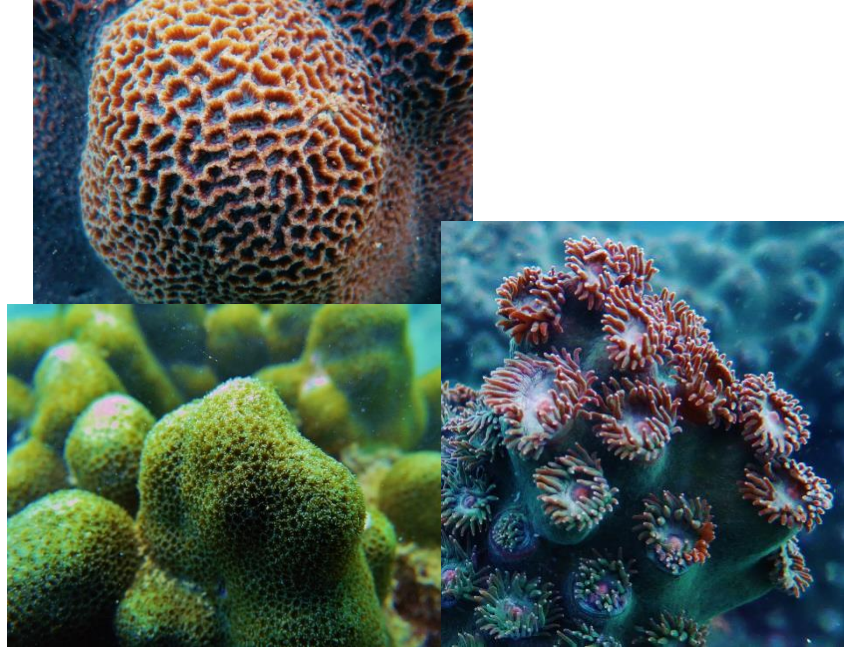
Hong Kong is **disproportionally rich** in its marine biodiversity

香港海洋物種「富可敵國」



You may not know that...

你未必知道...



HK has **84 species** of hard corals
> the Caribbean

香港有**84種**石珊瑚 > 加勒比海

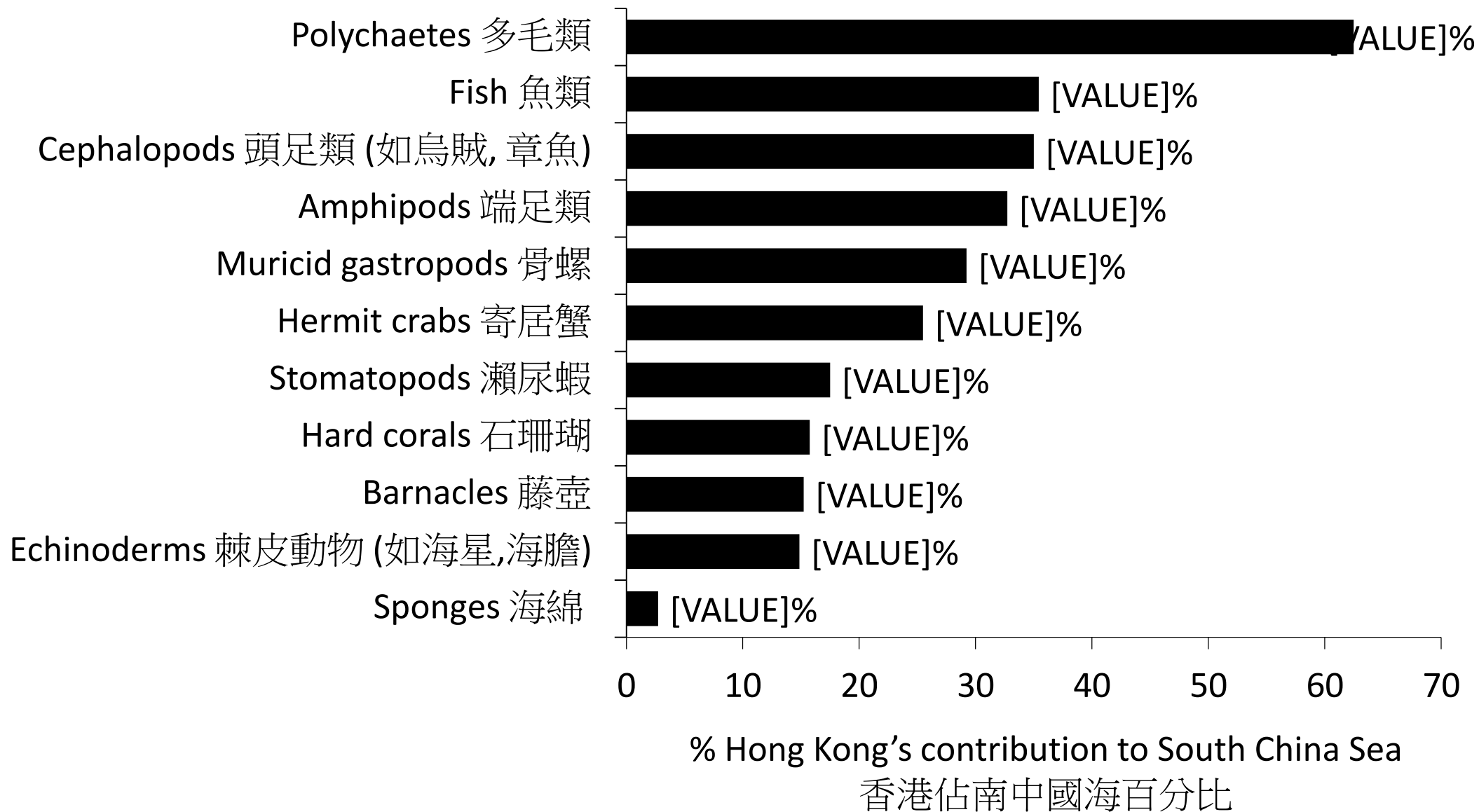


HK has **8 species** of mangrove trees
> the whole East Africa

香港有**8種**紅樹 > 整個非洲東部

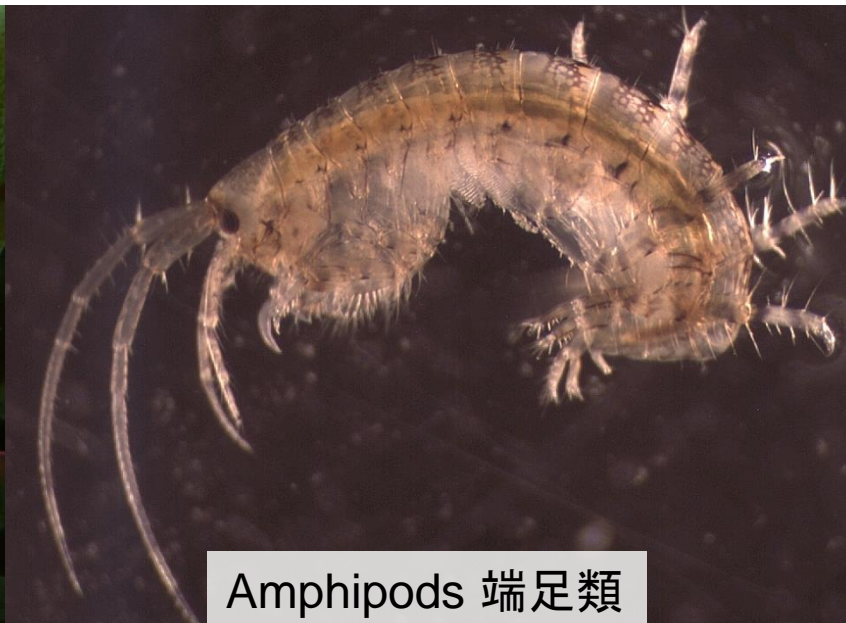
Hong Kong occupies **about 0.05%** marine area of South China Sea

香港佔南中國海**約0.05%**海域





Fish 魚類



Amphipods 端足類



Cephalopods 頭足類



Polychaetes 多毛類

HK contributes to
more than 30%
species in these
groups of organisms
recorded in the South
China Sea

香港的這幾類海洋生
物均佔南中國海**超
過三成**的物種

Species named after **Hong Kong**
以**香港**命名的海洋物種



Onchidium hongkongense
香港石磺



Crassostrea hongkongensis
香港巨牡蠣



Epinephelus akaara
(**Hong Kong** Grouper)
香港紅斑



Hard coral bed
石珊瑚床



Soft coral bed
軟珊瑚床



Macroalgae bed
海藻床

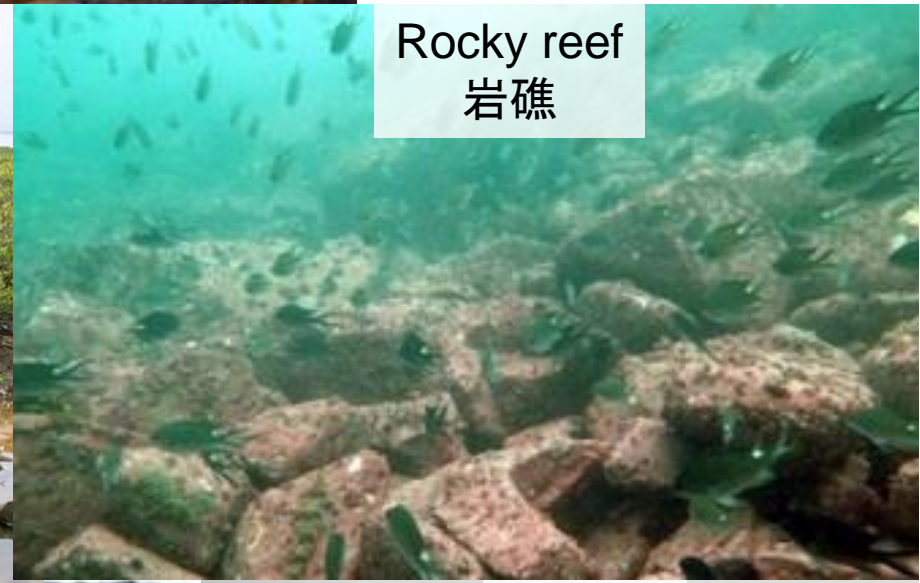
Diverse habitats
多元的生境



Seagrass bed
海草床



Mangrove stand and mudflat
紅樹林及泥灘



Rocky reef
岩礁



Soft seabed
軟海床



Sandy shore
沙灘



Estuary
河口

Crab and mussels 蟹及青口



Oysters and chiton 蠔及石鱗



Rocky shore species
岩岸物種

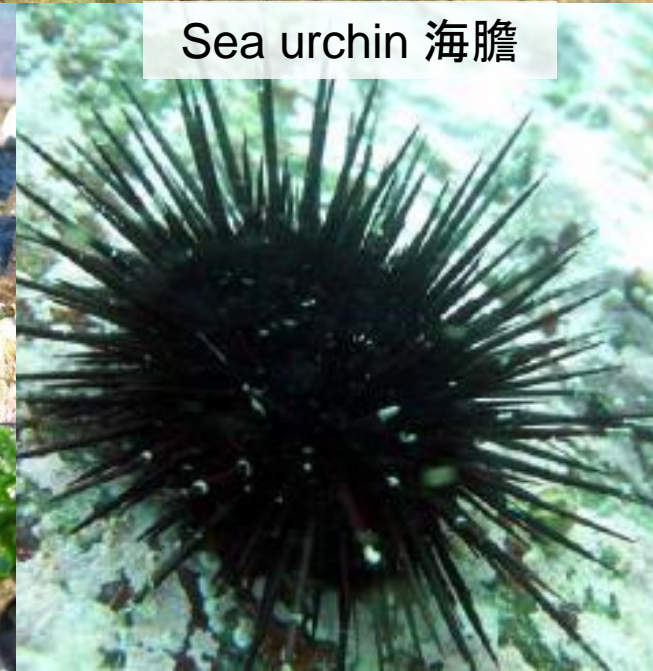
Periwinkles 濱螺



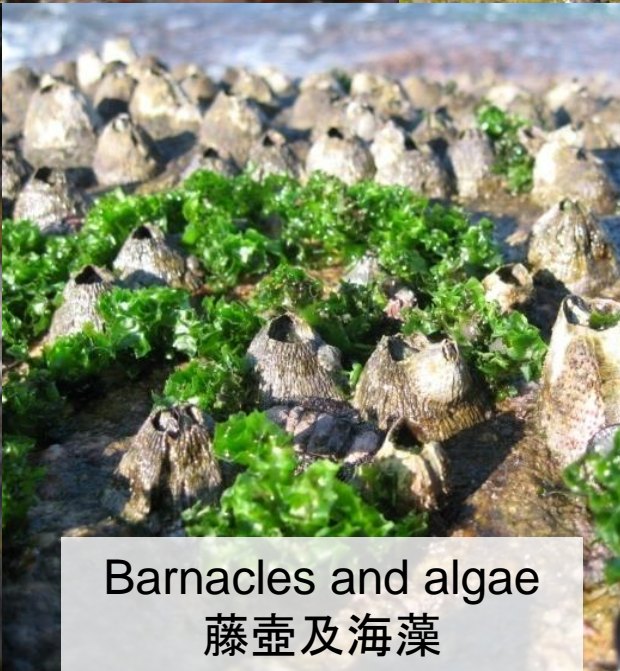
Limpets 帽貝



Sea urchin 海膽



Barnacles and algae 藤壺及海藻



Seahorse 海馬



Mudskipper 彈塗魚



Mangrove species
紅樹林物種



Clam 蛤

Fiddler crab 招潮蟹



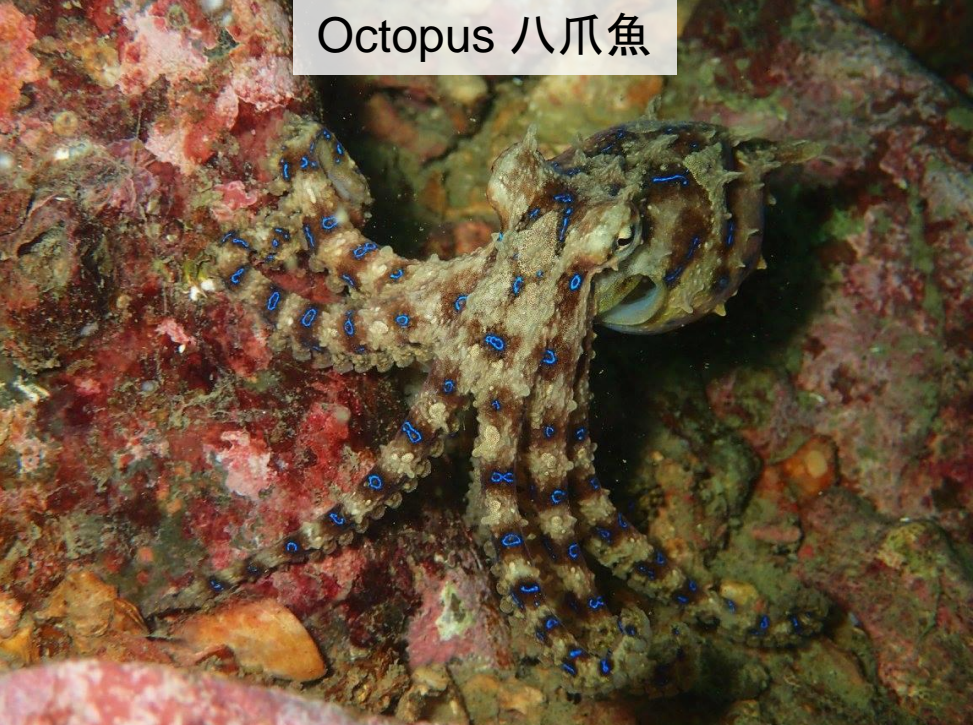
Sesarmid crab 相手蟹



Mud snails 泥螺



Octopus 八爪魚



Starfish 海星



Benthic species
底棲物種



Tube worm 管蟲

Sea cucumber 海參



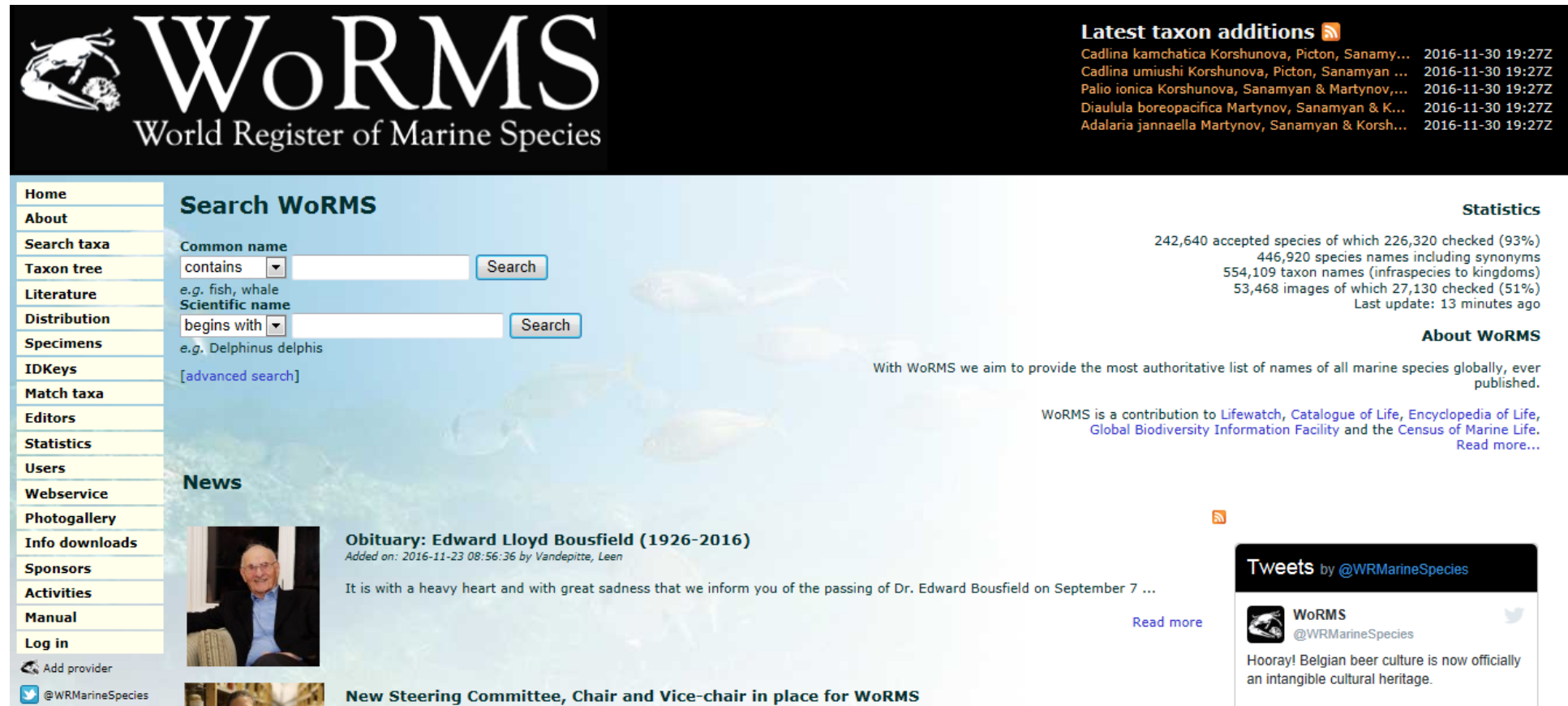
Porcelain crab 瓷蟹



Sea slug 海蛞蝓



Collaborate with the **world's largest** marine biodiversity database 與**全球最大**的海洋物種數據庫合作



The screenshot shows the WoRMS (World Register of Marine Species) website. At the top left is the WoRMS logo with a fish icon and the text 'World Register of Marine Species'. To the right, under 'Latest taxon additions', there is a list of recent species additions with their dates and times. Below this is a navigation menu on the left with options like Home, About, Search taxa, etc. The main content area features a search bar with 'Search WoRMS' and two search input fields: one for 'Common name' (with a dropdown menu set to 'contains') and one for 'Scientific name' (with a dropdown menu set to 'begins with'). Below the search bar is a 'News' section with an obituary for Edward Lloyd Bousfield (1926-2016) and a notice about the new Steering Committee. On the right side, there are 'Statistics' and 'About WoRMS' sections. A 'Tweets by @WRMarineSpecies' widget is also visible at the bottom right.

Latest taxon additions

Cadlina kamchatica Korshunova, Picton, Sanamy...	2016-11-30 19:27Z
Cadlina umiushi Korshunova, Picton, Sanamyan ...	2016-11-30 19:27Z
Palio ionica Korshunova, Sanamyan & Martynov,...	2016-11-30 19:27Z
Dialula boreopacifica Martynov, Sanamyan & K...	2016-11-30 19:27Z
Adalaria jannaella Martynov, Sanamyan & Korsh...	2016-11-30 19:27Z

Search WoRMS

Common name: contains [input] Search

Scientific name: begins with [input] Search

[advanced search]

Statistics

242,640 accepted species of which 226,320 checked (93%)
446,920 species names including synonyms
554,109 taxon names (infraspecies to kingdoms)
53,468 images of which 27,130 checked (51%)
Last update: 13 minutes ago

About WoRMS

With WoRMS we aim to provide the most authoritative list of names of all marine species globally, ever published.

WoRMS is a contribution to Lifewatch, Catalogue of Life, Encyclopedia of Life, Global Biodiversity Information Facility and the Census of Marine Life.
Read more...

News

Obituary: Edward Lloyd Bousfield (1926-2016)
Added on: 2016-11-23 08:56:36 by Vandepitte, Leen

It is with a heavy heart and with great sadness that we inform you of the passing of Dr. Edward Bousfield on September 7 ...
Read more

New Steering Committee, Chair and Vice-chair in place for WoRMS

Tweets by @WRMarineSpecies

WoRMS @WRMarineSpecies
Hooray! Belgian beer culture is now officially an intangible cultural heritage.

<http://marinespecies.org/>

Open-access database (established in 2008) with **260 editors from more than 30 countries**
一個由全球**260位**來自**超過30個國家**的編輯整理而成的公開數據庫 (2008年建立)

Hong Kong is **the first in Asia** to launch a regional node under WoRMS 香港是**亞洲第一個**在《世界海洋物種名冊》設立分支的地區

Hong Kong Register of Marine Species (HKRMS)

[Intro](#) | [Search taxa](#) | [Taxon tree](#) | [Sources](#) | [Match taxa](#) | [Statistics](#) | [Editors](#) | [Log in](#)

Current number of accepted species: 5,559

The Hong Kong Register of Marine Species (HKRMS)

About the Hong Kong marine environment

Hong Kong is a Special Administrative Region (SAR) of China and has ~1,651 km² of territorial waters and a relatively long coastline of 1,189 km (equivalent to the coastline of England and Wales), largely due to the presence of over 260 islands. Located at 22° N and 114° E, Hong Kong lies just within the tropics and is influenced by a strongly seasonal climate as a result of changes between the northeast and southeast monsoons, which create a climate of cold, dry and almost temperate winters and hot, wet, tropical summers. Associated with the monsoonal climate, Hong Kong experiences seasonal changes in the dominance of three ocean currents, the Taiwan, Hainan and Kuroshio currents. Hong Kong's geographic location and seasonal shifts in monsoons and ocean currents therefore create an extremely dynamic environment and contribute to the mix of tropical and temperate flora and fauna found in Hong Kong.

The western waters of Hong Kong, under the influence of the Pearl River discharge from mainland China, are estuarine and as a result Hong Kong's waters can be divided into three hydrographic zones: the estuarine west, oceanic east and a central transition zone. Hong Kong waters, as elsewhere, can also be divided into the intertidal, sub-littoral and continental shelf zones. The intertidal zone is extremely diverse, with rocky shores focused on granitic and volcanic promontories that are interspersed with deep wave-cut bays. There is also a rich variety of sandy and muddy shores in deeply cut inlets of Hong Kong, with the most protected areas supporting mangrove stands. In the lower shore to sub-littoral, soft shores can support seagrasses and coral communities can be found in rocky sub-littoral areas, whereas the continental shelf is mainly comprised of muddy sands. The influence of the monsoonal climate, complex geology, seasonal variation in oceanic currents, proximity to the Pearl River, long drowned coastline, and diverse ecological habitats all interact to influence and mould the highly diverse marine biota in Hong Kong.



<http://www.marinespecies.org/hkrms/> (Launched in March 2016)

The **most comprehensive** marine biodiversity database in Hong Kong edited and managed by 8 local marine ecologists and WoRMS' experts

由8位本地海洋生態學家聯同WoRMS的專家負責編輯及整理的**全港最整全**的海洋物種數據庫

Importance of the study 是次研究的重要性

1. It provides **baseline information** about what we have in Hong Kong water.
它提供了香港海洋物種的**基本資料**。
2. It allow us to effectively assess the **status** of marine species in Hong Kong.
它讓我們能夠有效評估香港海洋物種的**狀況**。
3. It acts as a build block for a **marine GIS system** to better monitor marine resources in Hong Kong in the future.
它是將來建立一個**海洋地理資訊系統**(用以更有效地監測香港海洋資源)的基石。
And it is timely because...
另外,它來得及時因為...



《生物多樣性公約》

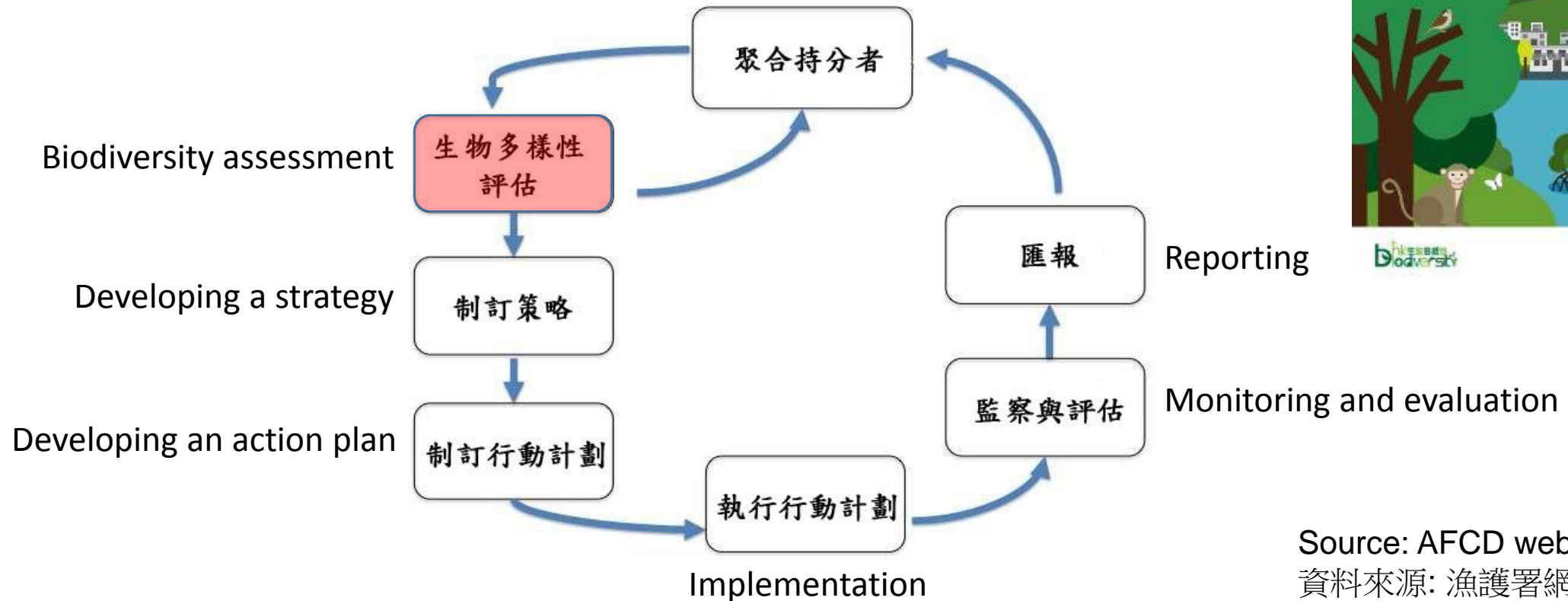
- Initiated by UNEP to promote conservation of biodiversity, the sustainable use and equitable sharing of biological resources
聯合國環境規劃署發起, 志在推動保護生物多樣性及可持續性地使用和公平分享生物資源的國際條約
- Currently 196 signatories worldwide
全球現有196個締約方
- China joined the Convention in 1993, and it was extended to Hong Kong on 9 May 2011
中國於1993年加入《公約》，而《公約》的適用範圍已於2011年5月9日延伸至香港

The Hong Kong Biodiversity Strategy and Action Plan (BSAP)

香港的生物多樣性策略及行動計劃



Bringing stakeholders together



Source: AFCD website
資料來源: 漁護署網頁

% Contribution of Hong Kong to terrestrial/freshwater species recorded in China

香港陸地或淡水物種佔全中國同類物種中的百分比



35%
birds 雀鳥



20%
reptiles 爬行動物



15%
freshwater fish 淡水魚



15%
dragonflies 蜻蜓



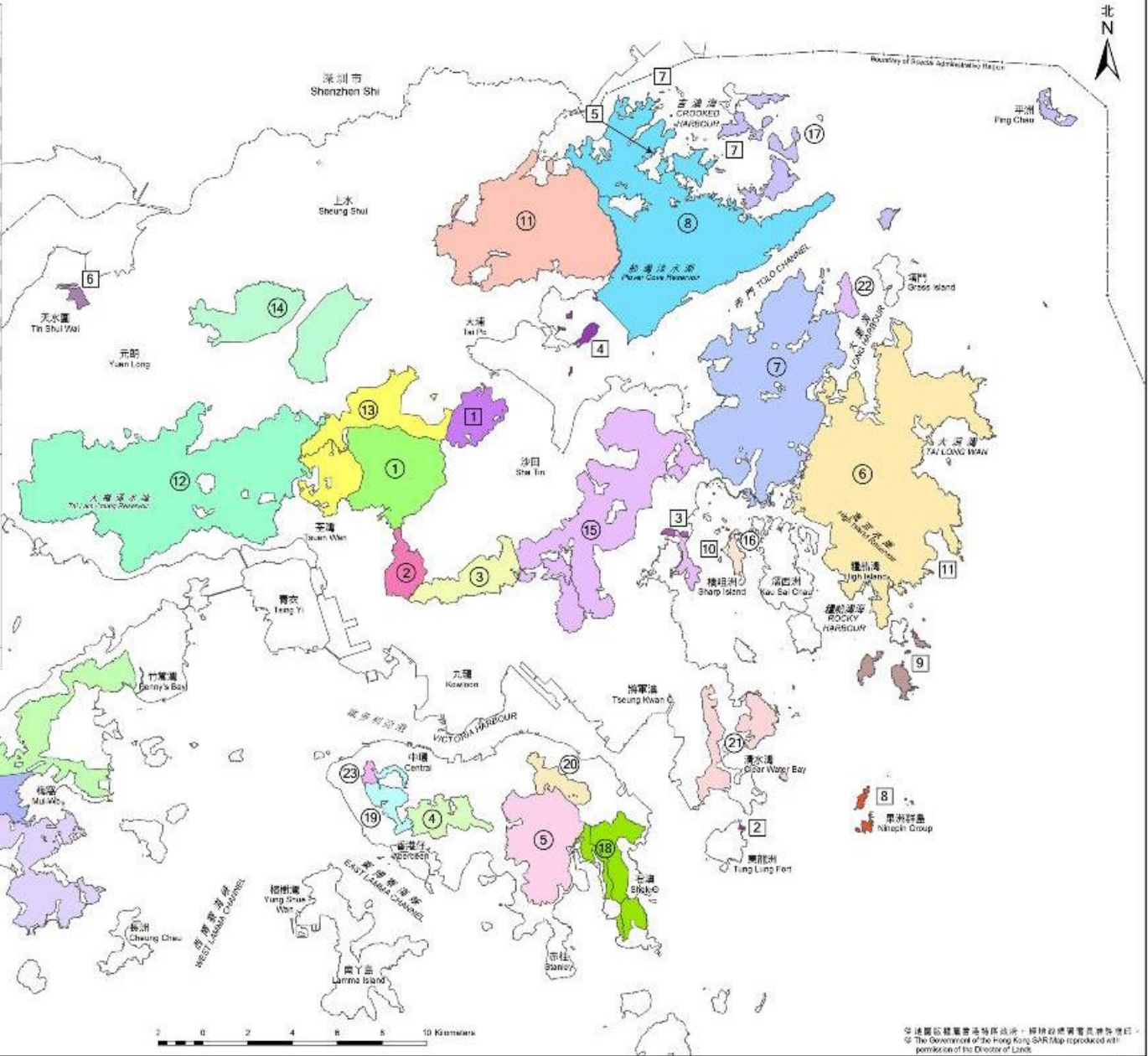
11%
butterflies 蝴蝶

Source: HK BSAP consultation document 2016

資料來源:香港生物多樣性策略及行動計劃諮詢文件2016

香港現已劃定的郊野公園 Designated Country Park in Hong Kong			
編號 No.	地點 Location	面積(公頃) Area (ha)	指定日期 Date of Designation
1	城門 Sham Mun	1400	24/6/1977
2	金山 Kam Shan	339	修訂的 Revised on 30/12/2013
3	獅子山 Lion Rock	557	24/6/1977
4	香港仔 Aberdeen	423	28/10/1977
5	大潭 Tai Tam	1315	28/10/1977
6	西貢東 Sai Kung East	4494	修訂的 Revised on 30/12/2013
7	西貢西 Sai Kung West	3000	3/2/1978
8	船灣 Plover Cove	4594	7/4/1978
9	蘭大嶼 Lantau South	5640	20/4/1979
10	北大嶼 Lantau North	2200	18/6/1978
11	八仙處 Pat Sin Leng	3125	18/6/1978
12	大帽山 Tai Mo Shan	5412	修訂的 Revised on 30/12/2013
13	林村 Lam Tsuen	1440	23/2/1979
14	松林 Ma On Shan	1520	23/2/1979
15	橫山 Ma On Shan	2880	修訂的 Revised on 18/12/1998
16	樓仔 Kiu Tsui	100	1/5/1978
17	船灣(擴建部分) Plover Cove (Extension)	630	1/6/1979
18	石澳 Shek O	701	修訂的 Revised on 22/10/1983
19	薄扶林 Pok Fu Lam	270	21/9/1979
20	大潭(清水灣擴建部分) Tai Tam (Quarry Bay Extension)	270	21/9/1979
21	清水灣 Clear Water Bay	815	28/9/1979
22	西貢西(灣仔邊陲部分) Sai Kung West (Wan Tsai Est.)	123	14/6/1986
23	龍虎山 Lung Fu Shan	47	18/12/1998
24	北大嶼(擴建部分) Lantau North (Extension)	2360	7/1/2008
總面積 Total Area		43455	

香港現已劃定的特別地區(位於郊野公園外) Designated Special Area in Hong Kong (Outside Country Park)			
編號 No.	地點 Location	面積(公頃) Area (ha)	指定日期 Date of Designation
1	大埔郊自然護理區 Tai Po Kau Nature Reserve	460	13/5/1977
2	龍洞炮台 Tung Lung Fort	3	22/6/1979
3	筆架 Tsiu Hang	24	18/12/1987
4	馬屎洲 Ma Shi Chau	61	9/4/1998
5	荔枝窩 Lai Chi Wo	1	15/3/2005
6	香港濕地公園 Hong Kong Wetland Park	81	1/10/2005
7	排灣嶼 Double Haven	0.8	1/1/2011
8	柴灣群島 Ninepin Group	53.1	1/1/2011
9	鹽田群島 Ung Kong Group	176.8	1/1/2011
10	擲坭洲 Sherp Island	0.06	1/1/2011
11	擲坭嶼 High Island	3.9	1/1/2011
總面積 Total Area		845	



About 40%
land area are
protected
約40%陸地
受保護

Source: AFCD website
資料來源: 漁護署網頁

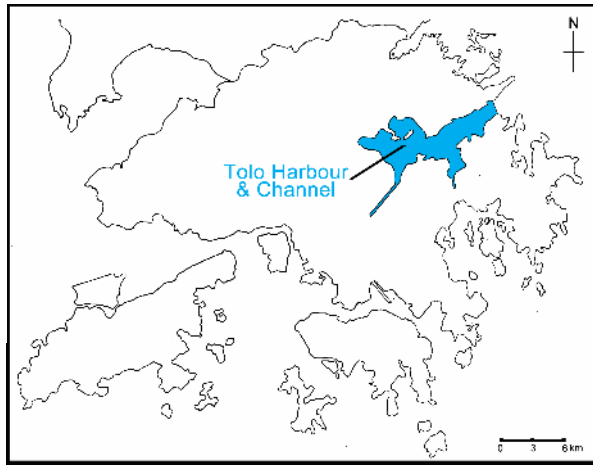


But only <2% marine area are protected...

但少於2%海域受保護...

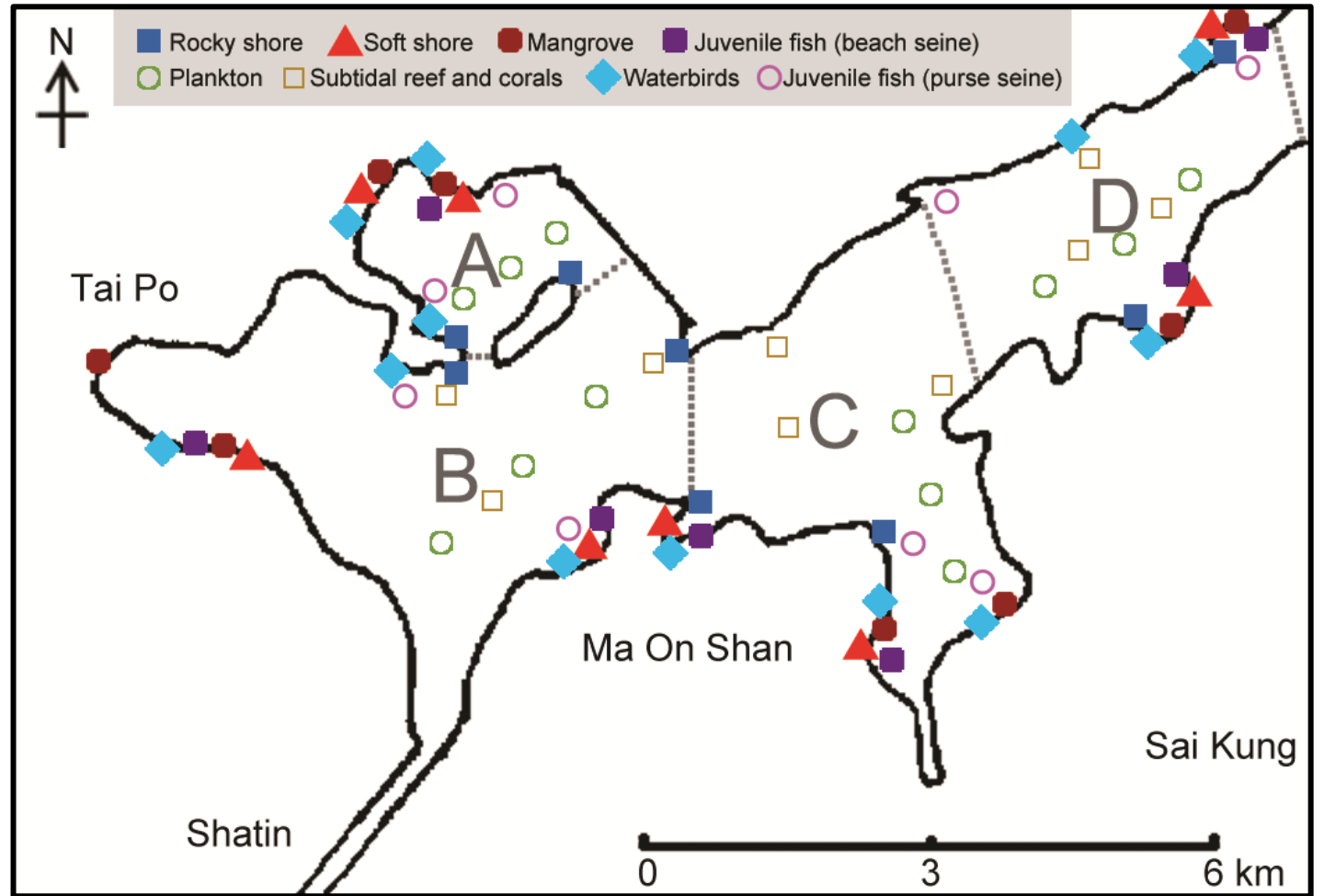


Source: EPD website
資料來源: 環保署網頁

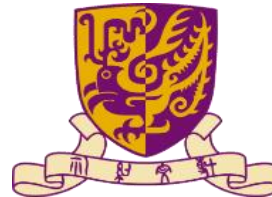


Assessing the Marine Biodiversity and Ecology of Tolo Harbour and Channel, with Particular Reference to Coastal Marine Environments of Ting Kok and Shuen Wan Hoi

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



Prof. Gray A. Williams
 Director, The Swire Institute of Marine Science (SWIMS), and
 Professor, School of Biological Sciences, HKU





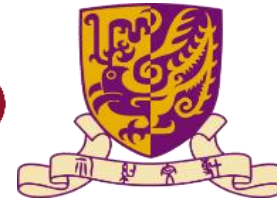
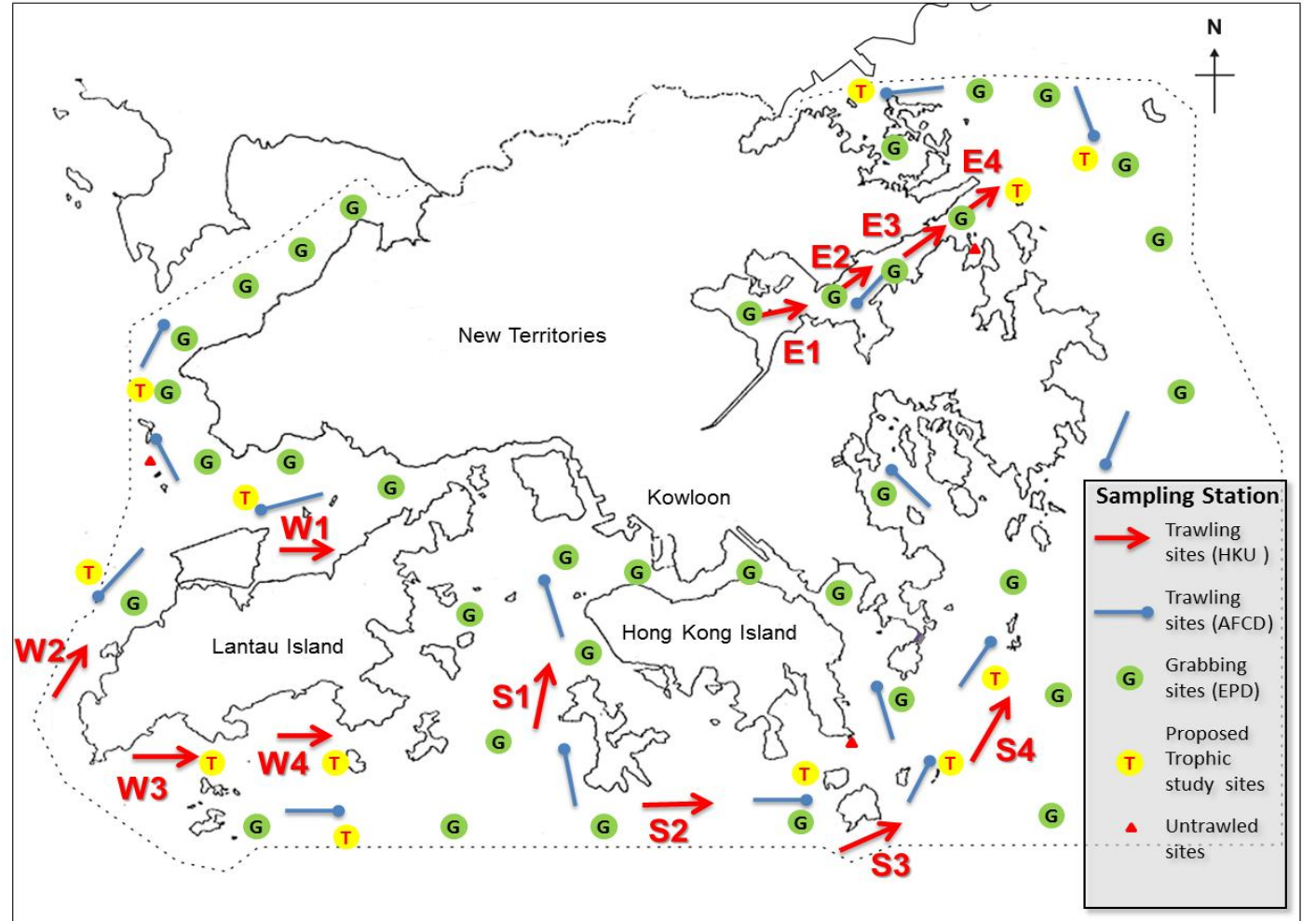
Research Grants Council
of Hong Kong
香港 研究資助局

Ecology and biodiversity of benthic marine ecosystems before and after the trawling ban in Hong Kong coastal waters

研究禁止拖網捕魚對香港海洋底棲生態系統及生物多樣性之影響



Prof Kenneth M.Y. Leung
Associate Dean (Research and Graduate Studies), Faculty of Science,
and Professor, School of Biological Sciences and The Swire Institute of Marine Science (SWIMS), HKU



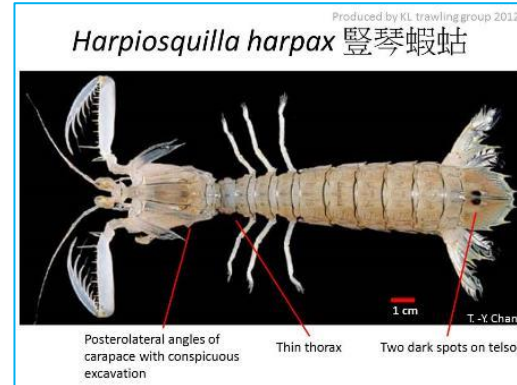
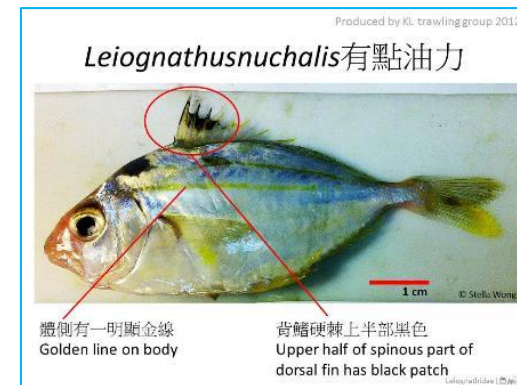
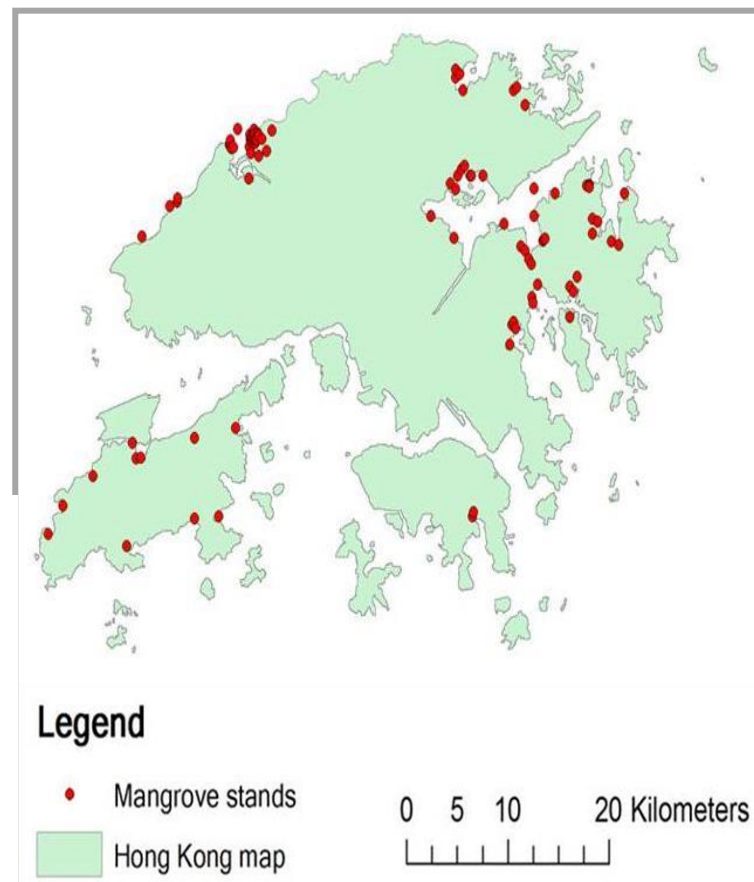


What's next? 下一步?

Marine Biodiversity Centre
海洋生物多樣性中心



Marine GIS system
海洋地理信息系統



Protect our marine resources = Protect our common natural heritage

保護我們的海洋資源 = 保護我們共同的自然遺產

Photo credits 相片提供:

Prof Gray Williams, Prof Kenneth Leung, Dr Cynthia Yau, Dr Stefano Cannicci, Dr Calton Law, Dr Jianwen Qiu, Dr Kevin Ho, Mr Gomen See, Mr Philip Thompson, HKU Ting Kok project team, HKU trawling project team, HKU Cetacean Ecology Lab

