



HONG KONG
maritime
museum
香港海事博物館

香港 海岸與海洋生物 的秘密生活

The Shaping of Hong Kong Coastline and
Secret Lives of Marine Fauna



香港 海岸與海洋生物 的秘密生活

The Shaping of Hong Kong Coastline and
Secret Lives of Marine Fauna

Index

前言 Foreword	1
香港海岸生境簡介 Introduction of Hong Kong coastline habitats	3
馬屎洲—泥盆紀岩石 Devonian rocks at Ma Shi Chau	5
元朗白泥—泥灘生境 Mudflat habitat at Pak Nai, Yuen Long	7
嚙(馬蹄蟹)的秘密生活 The secret life of the horseshoe crab	9
消失的黃花魚 The secret demise of the yellow croaker	13
消失的黃唇魚(大澳魚) The secret demise of the Chinese Bahaba	16
考考你 Let's have fun	17
筆記 Notes	19
活動項目 List of activities	20



前言

在漁農自然護理署的資助下，香港海事博物館教育組於2021年夏季舉辦了「香港海岸與海洋生物的秘密生活」活動。儘管現時疫情為我們帶來了不少挑戰，仍無阻活動的受歡迎程度。於博物館舉辦的兩場海洋生態講座《香港漁業今昔—消失的黃花魚》及《香港泥灘生態—我們的藍血活化石》皆滿座，並大獲好評。此外，兩次分別到元朗白泥和馬屎洲的生態導賞團，亦同樣爆滿。

本人很高興看到這本小冊子記錄了這些活動的內容。活動貫徹香港海事博物館自十八年前成立至今，秉承作為香港海事歷史、文化和遺產保管人所擔當的任務。

為了現今一代甚至下一代著想，我們必需關心海洋發展和環境問題。從2021年開始，我們擴大視野，把使命和願景延伸，將傳統興趣及專業領域（歷史和藝術），與科學—包括遠近海洋生態相關題目連結。

由此可見，是次項目是一個嶄新發展方向的開始，旨在融合海洋科學和生態學議題。於2022年，我們快要慶祝太古海洋探知館的落成。此館將成為香港海事博物館在實體上及精神上不可分割的一部分；它亦將成一個強大平台，結連社會機構、企業、大學和學校，鼓勵之間的對話、促進研究、培養年輕人才、積極發掘方案，以應對與「綠色星球、藍色海洋」概念相關的問題及挑戰。

是次活動得以順利完成，要感謝教育組付出的努力。期望日後舉辦的教育活動繼續有您們的參與！

肖猷思教授

博物館總監
香港海事博物館總監

Foreword

Funded by the Agriculture, Fisheries and Conservation Department, this project, The Shaping of Hong Kong Coastline and Secret Lives of Marine Fauna, led by the Education Team of the Hong Kong Maritime Museum (HKMM) in Summer 2021, was very much appreciated – despite the many challenges the current pandemic situation imposes upon us. The two public talks Hong Kong Fisheries Now and Then – The Demise of Yellow Croaker and Hong Kong Mudflat Ecology – Our Blue-blood Living Fossil by staff of the HKMM were well attended and equally well-received. Moreover, the HKMM organised two eco tours: one to Pak Nai, and the other one to Ma Shi Chau. Both were fully booked.

I am delighted to see that the contents of these various initiatives are being preserved in this book. From its inception some twenty years ago, the Hong Kong Maritime Museum has established itself as the custodian of maritime history, culture, and heritage in Hong Kong.

For the benefit of present and future generations, we are concerned for our marine development and environmental issues. Starting in 2021 we have expanded our mission and vision by fusing our traditional fields of interest and expertise (history and arts) with science – the ecological issues related to the marine life nearby and further away.

Henceforth, this project is just the beginning of a rigorously new course in programming, focused on the inclusion of and fusion with marine science and ecology. In 2022, we will celebrate the completion of the Swire Marine Discovery Centre as an integral part of the HKMM – not only physically, but also intellectually. The Centre will be a powerful podium for NGOs, corporates, universities, and schools to have dialogues, enable research, nurture young talents and drive solutions about timely issues and challenges pertaining to the “Green Planet, Blue Ocean” concept.

I congratulate the Education Team with this fine result of their hard work and invite you all to visit and participate in our future programmes!

Professor Joost Schokkenbroek

Museum Director
Hong Kong Maritime Museum

香港海岸生境簡介

Introduction of Hong Kong Coastline Habitats

珠江
Pearl River

白泥
Pak Nai

馬屎洲
Ma Shi Chau

HONG KONG
maritime
museum
香港海事博物館

-  潮間帶泥灘
Intertidal Mudflat
-  紅樹林
Mangrove
-  海草床
Seagrass

香港位於亞熱帶地區，氣候適合熱帶及溫帶的動植物棲息。香港位於珠江河口，西面的水域極受珠江流入的淡水影響，而東面水域受影響較微，保留其海洋特性。香港更擁有1,100多公里悠長的海岸線，其獨特地理及水文優勢，打造了多樣的海洋生境，如潮間帶泥灘、紅樹林、海草床及珊瑚床等，孕育著高密度的生物多樣性。據2016年香港大學之研究指出香港有紀錄之海洋生物種類高達5,943種，佔全中國約26%。言而，香港海洋面積只佔全中國0.03%，可見生物多樣性之豐富得以令人驕傲。

Hong Kong is in the subtropic region. Its climate supports both tropical and subtropical flora and fauna. Situated at the mouth of Pearl River, Hong Kong's western water receives freshwater discharged from the river. The eastern oceanic waters are less influenced by the river. Hong Kong also has a coastline of over 1,100km long. Different habitats such as intertidal mudflats, mangroves, seagrass beds and coral reefs, bringing an intensively wide range of biodiversity, reflect the special geographical and hydrographical advantages of Hong Kong. Hong Kong has a record of 5,943 marine species according to the research conducted by The University of Hong Kong in 2016. It accounts for an approximately 26% of the total marine species in China, even though Hong Kong marine waters makes up only about 0.03% of the China sea area. Such an abundant biodiversity is our inherited privilege.

馬屎洲—泥盆紀岩石

Devonian Rocks at Ma Shi Chau

吐露港北岸和黃竹角咀的大部分岩石是香港最古老的，形成於約4億年前的泥盆紀時期。而馬屎洲位於吐露港西南岸，此處的沉積岩大約於2.8億年前形成，是該岩石區域中第二古老的岩石。

馬屎洲是香港二疊紀「大埔海組」的要址，島上岩石存在斷層和褶皺構造，岩層亦發生變形或錯斷，形態複雜，因此最適合研究地層、岩性、沉積特徵和各類地質構造。

本地政府於1999年已把此區劃為「馬屎洲特別地區」。

Most of the rocks along the north shore of Tolo Channel and at Bluff Head are the oldest in Hong Kong, formed 400 million years ago during the Devonian Period. Ma Shi Chau located on the southwest shore of Tolo Channel has sedimentary rocks formed about 280 million years ago; the rocks are the second oldest rocks in this rock region.

The Ma Shi Chau is the key site of Hong Kong's Permian Tolo Harbour Formation. With faults and folds as well as deformed and displaced rock mass found here, this island is an ideal location for studying strata, rock properties, sedimentation features and different geological compositions.

This region was declared the Ma Shi Chau Special Area by the local government in 1999.



元朗白泥—泥灘生境

Mudflat Habitat at Pak Nai, Yuen Long

白泥位於香港西北面，面向后海灣。白泥為潮潤帶泥灘，上面有紅樹林、蠔礁、海草床等生境，不少候鳥視白泥及后海灣一帶為遷徙時重要之能量補給站。白泥擁有著多元的棲息地及孕育著豐富的生物多樣性，亦被列入具特殊科學價值地點。

Pak Nai, located in the northwest of Hong Kong, faces Deep Bay. It is an intertidal mudflat where mangroves, oyster reefs and seagrass beds are found. Many migratory birds take Pak Nai and Deep Bay as important energy replenishment stations during the migratory season. Pak Nai has abundant biodiversity that is also listed as one of the Sites of Special Scientific Interest (SSSIs) in Hong Kong.



鱗 (馬蹄蟹) 的秘密生活

The Secret Life of the Horseshoe Crab



𧏧 (馬蹄蟹) 的秘密生活

The Secret Life of the Horseshoe Crab

馬蹄蟹，又稱𧏧，屬肢口綱劍尾目的節肢動物。雖然名稱有蟹字，但馬蹄蟹並非蟹，而是蜘蛛及蠍子的近親，與已滅絕的三葉蟲有親緣關係。

馬蹄蟹於地球存活了最少4.75億年，形態上並沒有太大改變，故有「活化石」之稱。現存世界上僅剩4種馬蹄蟹，分別是中國𧏧（又名三棘𧏧）、圓尾𧏧、巨𧏧（又稱南方𧏧）及美洲𧏧。中國𧏧及圓尾𧏧均可在香港泥灘找到。

帶銅而呈現藍色的馬蹄蟹血液對人類非常重要，此藍血可用作提煉醫用試劑，能準確及快速地檢測醫療用品有否受細菌內毒素污染，而這試劑已被廣泛應用幾十年，暫時尚未有其他代替品，所以馬蹄蟹對人類醫學之貢獻實在不可估量。

The horseshoe crab, belongs to the phylum of Arthropod. Though called 'crabs', they are not true crabs. In fact, they are closely related to spiders and scorpions, and mostly related to the extinct trilobites.

The horseshoe crabs have been existing on earth for at least 475 million years. Their bodies have not changed much over time. Therefore they are also called the 'living fossil'. There are 4 species left, Chinese horseshoe crab (tri-spine horseshoe crab), mangrove horseshoe crab, southern horseshoe crab (Malaysian horseshoe crab) and American horseshoe crab. The Chinese horseshoe crab and mangrove horseshoe crab can be found in the intertidal mudflats in Hong Kong.

The horseshoe crab's copper-based blue blood is very important to humans. The extract of its blood is an efficient detector of bacterial endotoxins. This has been widely used for decades and there is no other proven substitutes so far. The horseshoe crab has a tremendous contribution to the development of the human medicines.



馬蹄蟹由卵孵出時比人類指甲還要細小。每一次脫殼，身體便長大約三分之一，需逾十年才達性成熟。

The horseshoe crab hatchlings are smaller than the human's fingernail. They grow 1/3 bigger every time they molt. It takes over 10 years for them to be sexually mature.



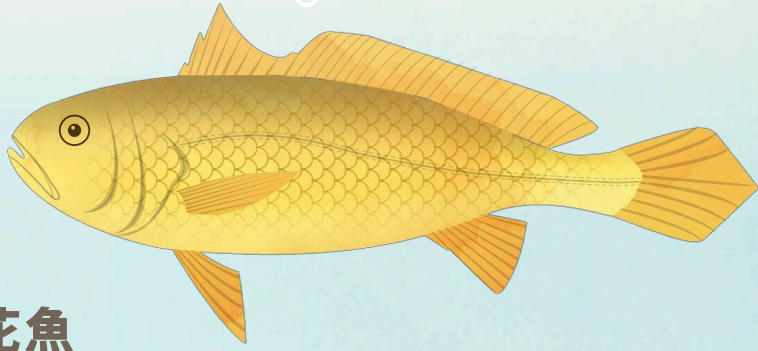
馬蹄蟹交配時常以一公一母出現，故又稱「夫妻魚」。

The horseshoe crabs are often found swimming in pairs during their mating season. Therefore, they are also called 'couple fish'.



消失的黃花魚

The Secret Demise of the Yellow Croaker



黃花魚

Larimichthys polyactis

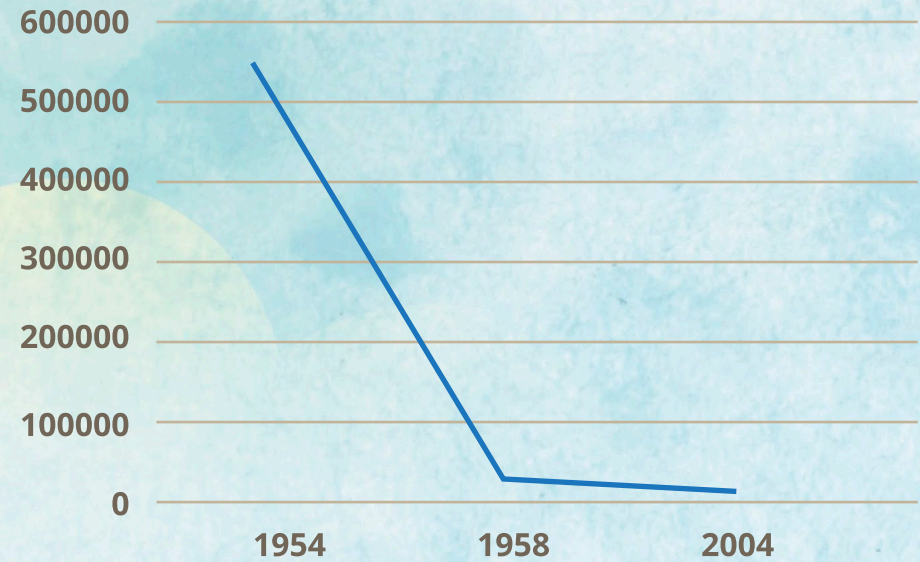
黃花魚又名小黃花、小黃魚、花魚、古魚，屬石首魚科。石首魚科還包括黃唇魚及獅頭魚等，此科魚類頭中有兩顆堅硬的耳石，故稱「石首魚」。

因黃花魚的迴游特性，每逢春末都會大批結聚於鹹淡水近岸海域交配產卵。黃花魚聚集時會發出「咕咕咕」的聲音，漁民了解此特性便看準時機，將其一網打盡。加上當時政府於50年代鼓勵大量捕魚，短短數年間便令曾經十分常見的野生黃花魚因過度捕撈而差不多絕跡於香港魚市場。

The yellow croaker, also called little yellow croaker, little yellow fish, *Fa Yu*, *Gu Yu*, belongs to the fish family Sciaenidae. Sciaenidae also includes Chinese bahaba, lion head croaker etc. This family of fish is characterised by the two earstones (Otoliths) in their heads.

Due to their distinctive reproductive behaviour, they aggregate in a large number during early summer in brackish water to spawn. They produce a loud *gugu* sound when they aggregate that alerts fishermen to catch them easily. Furthermore, in the 1950s, the local government encouraged fishermen to catch many fishes taking the yellow croakers to its blink of extinction.

野生黃花魚捕撈量 (公斤)
Wild Yellow Croaker Catch (Kg)

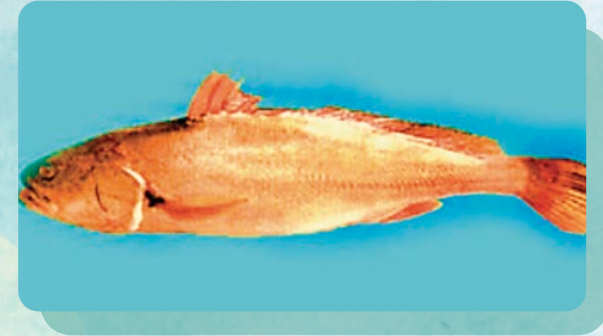


黃花魚的捕撈量
Yellow Croaker Catch
(Chung et al., 2012: 24)

Chung, S, Chau, W, and Guan, C (2012) 'Step into Tai O', in Kee, T, Lang, J, Wang, W, and Yeung, W (eds) Old Tai O Police Station: The Evolution of a Centenary Monument, Hong Kong: Hong Kong Heritage Conservation Foundation : 18-30.

消失的黃唇魚（大澳魚）

The Secret Demise of the Chinese Bahaba



圖片來源：廣東省海洋和漁業局

Photo Source: Guangdong Provincial Bureau of Ocean and Fisheries

大澳是香港歷史悠久的漁村。全盛時期共有超過500艘漁船作業，人口高達二、三萬。當中最為豐盛的漁獲便是黃花魚。可惜，當時並未有可持續發展概念，短短數年間因過度捕撈而導致生態失衡，漁獲大大減少至不能養妻活兒。到80年代，漁船只剩下約100艘，大澳漁民亦開始搬離大澳，出城工作。直至2006年，只剩下20多艘漁船停泊在大澳，人口約三千。

Tai O is an ancient fishing village in Hong Kong. There were more than 500 fishing boats anchored in Tai O supporting the 20,000 – 30,000 population. The key fish species, yellow croaker, was most abundantly caught at that time without the concern of sustainability. The marine ecology became off-balanced within a decade due to overfishing. The plummeting numbers of fish could no longer support local fishermen's living. In 1980s, there were only 100 fishing boats left, most villagers moved to the city seeking other jobs for livelihood. In 2006, there were only around 20 fishing boats left anchoring in Tai O with a population of around 3,000.

說到黃花魚及大澳，不得不提黃花魚的同鄉近親—黃唇魚。黃唇魚同屬石首科，但比黃花魚珍貴得多。黃唇魚又名大澳魚，是以前大澳居民賴以為生的珍貴漁類。黃唇魚比黃花魚大得多，平均重70-80斤，最長可達2米、可重至200斤。其魚鱔可製成價值連城的上等花膠。因此，黃唇魚與黃花魚面臨同一瀕危命運，自70年代起便差不多絕跡大澳，甚至已被列入「極危」級別的瀕危物種紅色名錄。

Talking about the yellow croaker and Tai O, the other superstar fish from Tai O, the Chinese bahhaba, is a close relative. It is also called 'Tai O fish'. This precious fish type was once very important to the villagers that supported their living. It weighs around 35-40kg in average, but it can grow up to 2m long weighing 100 kg. The swimming bladder can be processed to make expensive fish maw. The huge economical benefit pushed this precious fish towards the same fate of extinction as the yellow croaker. The Chinese bahhaba disappeared from the Tai O area since 1970s. It is now also on the critically endangered IUCN Red List.

考考你

Let's Have Fun

Hong Kong Coastline Habitats

M H O R S E S H O E C R A B Q F P V
 U A Z M U I Y H R C H A B I T A T M
 D W K A B P C V T R I L O B I T E A
 F C S R T C O V E R F I S H I N G N
 L S C I R W E Z W O H Z H H C F Q G
 A V O N O C O A S T L I N E P I F R
 T Y P E P A I N T E R T I D A L X O
 B I O D I V E R S I T Y O C E A N V
 G K E P C L H I P S E A G R A S S E
 Q O F X A C C N F Q I P F N P E S G
 S F Q D L U A L V J C R O A K E R A
 P E A R L R I V E R F O S S I L X F

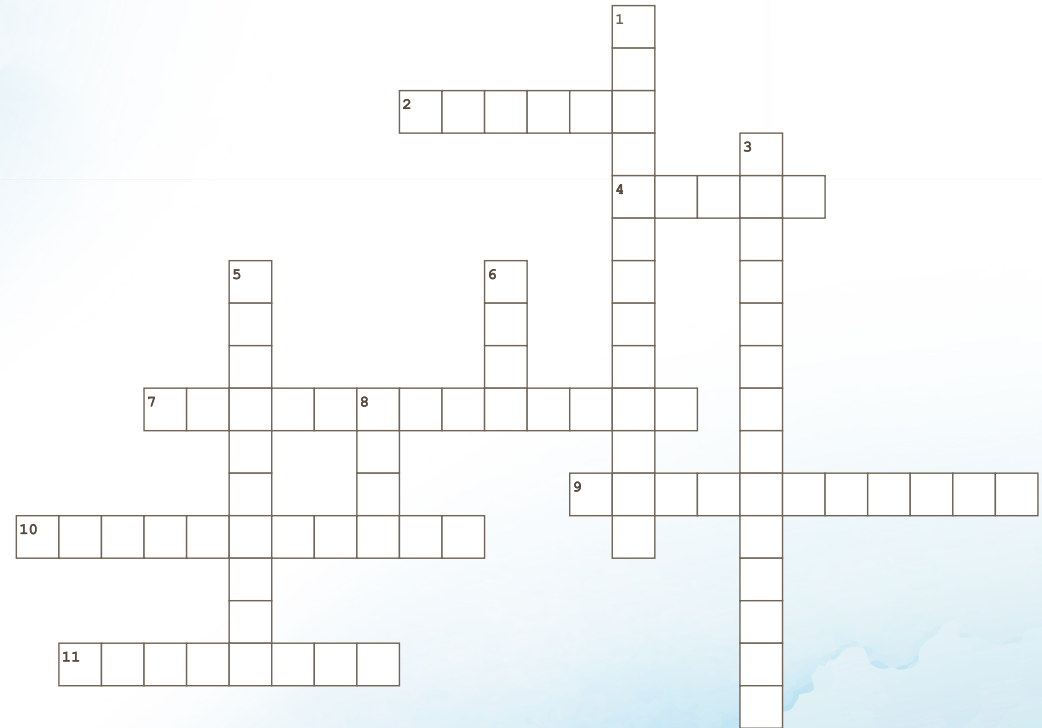
Find the following words in the puzzle.
 Words are hidden → ↓ and ↘

BIODIVERSITY
 COASTLINE
 CROAKER
 FOSSIL
 HABITAT
 HORSESHOECRAB

INTERTIDAL
 MANGROVE
 MARINE
 MUDFLAT
 OCEAN
 OVERFISHING

PEARLRIVER
 SEAGRASS
 SUBTROPICAL
 TRILOBITE

The Shaping of Hong Kong Coastline and Secret Lives of Marine Fauna



Across

2. The remains or impression of a prehistoric plant or animal embedded in rock and preserved in its petrified form
4. Huge body of salt water that covers over 70% of the earth's surface
7. The living fossil highlighted in this book
8. The type of rock found in Ma Shi Chau
9. The act of fishing excessively, thus reducing fish species in the sea
10. The famous plant living in mudflats

Down

1. The fish described in this book
3. The Museum located at Central Pier 8
5. The river that influences the salinity of western waters in Hong Kong
6. The colour of horseshoe crab's blood
8. Sites of Special Scientific Interest

筆記

Notes

香港 海岸與海洋生物 的秘密生活

The Shaping of Hong Kong Coastline and
Secret Lives of Marine Fauna

活動項目 List of Activities

公眾講座 @HKMM Public Talks @HKMM

2021年8月29日 29 August 2021	譚廣濂先生： Mr TAM K.L.:	香港漁業今昔 — 消失的黃花魚 Hong Kong Fisheries Now and Then – The Demise of The Yellow Croaker
	張可怡小姐： Ms Joe Cheung:	香港泥灘生態 — 我們的藍血活化石 Hong Kong Mudflat Ecology – Our Blue-blood Living Fossil

生態導賞團 Eco Tours

2021年9月4日 4 September 2021	白泥 — 尋找藍血活化石 Pak Nai – Finding The Blue-blood Living Fossil
2021年9月18日 18 September 2021	馬屎洲地質考察 Ma Shi Chau Geology Trip

 hongkongmaritimemuseum

 HKMaritimeMuseum

©2021 香港海事博物館有限公司
版權所有 不得翻印
出版：香港海事博物館有限公司
作者：張可怡
編輯：李小燕
所有圖片提供：張可怡

©2021 Hong Kong Maritime Museum Limited
All Rights Reserved
Publisher: Hong Kong Maritime Museum Limited
Author: Joe Cheung
Editor: Cora Lee
All photos courtesy of Joe Cheung

主辦機構：
Organiser:



此活動由漁農自然護理署資助
Subvented by the Agriculture, Fisheries and
Conservation Department

在此刊物上/項目活動內表達的任何意見、研究成果、結論或建議，並不一定反映香港特別行政區政府的觀點。
Aany opinions, findings, conclusions or recommendations expressed in this material/event do not necessarily reflect the views of the Government of the Hong Kong Special Administrative Region.