

遇

遇

遇

果

陳堅峰

Green Turtles

in Hong Kong

Simon Chan



漁農自然護理署
Agriculture, Fisheries and
Conservation Department



“我期待她重回拉海納。
當她回來的時候，我定會懷著敬重的心情，
在迎接她的人群中，跟她保持一段距離，讓她平安歸來。”

- 喬治·柏樂滋，美國國家海洋漁業局海龜研究計劃主管

“I look forward to her return to Lahaina. Be assured that when the time comes I'll be among those to greet her from a respectful distance, and offer safe passage.”

- George H. Balazs, Leader, Marine Turtle Research Program,
National Marine Fisheries Service, U.S.

喬治·柏樂滋在廿二年前，把一隻年僅一歲的雌性綠海龜放回大海。這隻綠海龜的名字叫“茂宜島姑娘”。廿二年後，她千里迢迢從遙遠的覓食地返回位於夏威夷的拉海納產卵，並在產卵後離去。我們相信“茂宜島姑娘”跟其它的綠海龜一樣，數年後會重回拉海納的產卵地產卵。

A female Green Turtle named “MauiGirl”, released by George H. Balazs 22 years ago as a yearling, returned to nest in Lahaina, Hawaii from her distant feeding ground. She then left Lahaina after she had laid her eggs. “MauiGirl”, like other Green Turtles, is expected to return to nest again some years later.



序 Foreword

縱然香港高度城市化，市民親近大自然的機會並不缺乏。受到良好保護的郊野公園及海岸公園，是市民在煩囂生活以外舒展身心的好地方。

為了使大家對自然環境有更多的了解，漁農自然護理署與郊野公園之友會合作，編纂了「放眼大自然」系列野外考察指南。本系列以香港的郊野及香港的海岸保護區為對象，由各方專家，從不同領域撰寫指南，協助讀者發掘自然之奧秘。我們衷心希望各位讀者放眼大自然，更加認識和欣賞大自然之趣。

本系列指南得以成功面世，有賴各方人士盡心盡力支持，謹在此向他們表示謝意。

Although Hong Kong is highly urbanized, the citizens are afforded plenty of opportunities to visit the countryside. In fact, the well-protected country and marine parks are the important recreational venues for a myriad of salubrious outdoor pursuits.

To increase the public's understanding of our natural environment, the Agriculture, Fisheries and Conservation Department and the Friends of the Country Parks have jointly published a series of field study guides named "Eyes on Nature". This series hitherto covered different aspects of the countryside of Hong Kong and the Marine Parks and Marine Reserves of Hong Kong. Experts were invited to write on the various realms of field study, hoping to assist readers to discover and discern the intricacies and joys of nature. We hope that everyone will broaden their perspective, and in the process can strengthen their understanding and appreciation of our well-endowed natural environment.

We would like to express our gratitude to all who have whole-heartedly contributed to the successful production of this series of field study guides.

陳鎮源太平紳士
Mr. Thomas C.Y. Chan
漁農自然護理署署長
Director of Agriculture, Fisheries and Conservation

霍君榮
Phileas K.W. Fok
郊野公園之友會主席
Chairman, Friends of the Country Parks

目錄 Contents

內容簡介 Introduction	5
海龜 Sea Turtles	6
世界的海龜品種 Sea Turtles Worldwide	8
香港的海龜品種 Sea Turtles in Hong Kong	9
綠海龜 Green Turtles	11
食物 Diet	13
分佈 Distribution	14
生境 Habitat	15
繁殖 Reproduction	17
孵化及成長 Hatching and Growth	23
國際及地區上的情況 International and Regional Status	25
在本港的情況 Local Status	27
危害海龜的活動 Threats	29
自然護理工作 Conservation Measures	32
有關保護海龜的法例 Legal Protection	33



目錄 Contents

具特殊科學價值地點 Site of Special Scientific Interest (SSSI)	34
限制地區 Restricted Area	35
產卵地的護理 Management of the Nesting Site	37
人工孵化 Artificial Incubation	39
保護及研究 Protection and Studies	44
衛星追蹤 Satellite Tracking	47
國際上、地區上及本地的合作 International, Regional and Local Cooperation	52
教育及市民的合作 Education and Public Cooperation	59
進一步參考 Further Reference	61
查詢 Enquiry	61
海龜出沒或擱淺的報告 Report Sightings or Strandings	62
發現海龜記錄表 Sighting Record of Sea Turtles	63
香港的海龜類 Turtles in Hong Kong	64
參考書目 Bibliography	104



內容簡介 Introduction

由於香港的環境不斷改變，近年已很少發現海龜的蹤跡。時至今日，南丫島的深灣是本港唯一現存的綠海龜產卵地。為了保護綠海龜，深灣的沙灘已在 1999 年 7 月根據〈野生動物保護條例〉被列為「限制地區」，禁止未持有許可證人士在海龜的繁殖季節進入，以減低人們對該地的影響。

本書簡述了綠海龜的生物學資料、在本港的情況及有關的保護工作。此外，亦介紹香港其它的龜鱉類。希望籍此令大眾市民認識到保護野生動物及護理大自然的重要性。

Sightings of sea turtles in local waters are becoming rare, because of Hong Kong's changing environment. At present Sham Wan, on Lamma Island, is the only existing nesting site of Green Turtles in Hong Kong. For the protection of Green Turtles, the sandy beach at Sham Wan was designated a Restricted Area in July 1999, under the Wild Animals Protection Ordinance. During the breeding season, entering the area without a permit is not allowed. This protection aims to minimize the disturbance caused by people to the nesting Green Turtles.

This booklet describes the biology, local status and conservation measures of Green Turtles in Hong Kong. Information about other turtles in Hong Kong is also included. It aims to raise public awareness about the importance of wildlife protection and nature conservation.

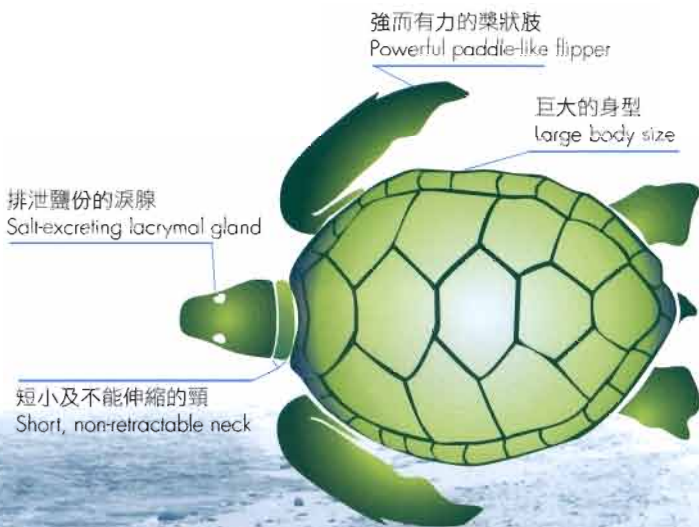


海龜 *Sea Turtles*

海龜是一種十分奇妙的海洋爬蟲類動物，它們大部份時間生活在大海當中，但卻必須返回陸地繁殖。海龜跟陸上的龜鱉相比，十分適應海洋的生活，例如海龜的淚腺可以幫助排出從海水及食物中攝取的多餘鹽份；海龜的四肢成槳狀，強而有力的鱗狀肢（特別是前肢），令到海龜可以快速及敏捷地在海中游泳；而短小及不能伸縮的頸部，更確保海龜在海中快速地游泳時，不會受到阻礙。海龜是用肺呼吸的，因此它們在水中逗留一段時間後，便要浮上水面呼吸。

海龜的巨大身型，以及在每個產卵季節產下數百隻蛋的能力，也令人十分驚訝。根據記錄，有些品種的海龜長達2.5米，重達900公斤（相等於12個成年男性的體重），更可以在每個產卵季節產蛋900多隻。我們對海龜的壽命有多長所知不多，海龜通常在二、三十歲才達成熟期，若以這個緩慢的生長速度來推測，海龜的壽命約有50到80多歲，甚至更長。

海龜最令人感到驚嘆的是它們的遷徙行為。由於需要作長途的旅程，海龜擁有很強的方向感。在繁殖季節，成年的海龜從數百甚至數千公里以外的覓食地，洄游到出生的沙灘繁殖。沒有人知道它們怎樣在茫茫大海中導航，並能夠分毫不差地返回出生的沙灘。即使是現代化船隻所安裝的最先進導航系統，可能也比不上海龜天生的導航能力。



海龜 *Sea Turtles*

Sea turtles are a special group of marine reptiles that live for most of the time in the ocean, but return to land for reproduction. Compared to land turtles, sea turtles are specialized ocean-dwellers. Their lachrymal glands allow them to secrete excess salts taken from sea water and marine foods; their limbs (in particular the front pair) are modified into powerful paddle-like flippers for rapid, skillful swimming in the seas; and their short non-retractable necks make fast ocean swimming possible. As they are reptiles, sea turtles use their lungs for breathing, and so must surface regularly to breathe.

Sea turtles are also remarkable because of their very large body size, the hundreds of eggs produced in a nesting season, and their long life. The adults of some sea turtle species may reach over 2.5 m in carapace length; weigh more than 900 kilograms (about the weight of 12 adult men); and produce over 900 eggs in one nesting season. Little is known of the longevity of the sea turtles. But, given their slow growth rate, sea turtles take 20 to 30 years to reach maturity - they are thought to live for up to 50 to 80 years, or even longer.

A remarkable aspect of sea turtles is their migratory behavior. Because of the need for long distance travel, they have developed an acute sense of direction - and, when they are ready to breed, adults will return from their feeding grounds to their natal (or original birth) beach, even if it is hundreds or thousands of kilometers away. No one knows exactly how sea turtles navigate across the vastness of oceans, or how they find their way back to their natal beach with pinpoint accuracy. This innate navigation ability matches, or perhaps even surpasses, the most advanced navigation systems of the most modern ships.



世界的海龜品種 *Sea Turtles Worldwide*

全世界記錄到約 260 種龜類，海龜只佔其中的 8 種。除了嚴寒的極地水域外，海龜廣泛分佈在世界各地的海洋，但它們的產卵地則限於熱帶及亞熱帶區域。

現存的海龜品種分別屬於稜皮龜科及海龜科。稜皮龜科只有一個品種，而海龜科則有 7 個品種。我們可以從海龜的龜殼形狀，及頭部和龜殼的甲片（背甲盾片）的排列形狀，分辨出不同品種的海龜。

About 260 species of turtles are found worldwide, but only eight of these are sea turtles. Sea turtles are distributed throughout the world's oceans, except in the frigid polar waters. But their nesting sites are restricted to the tropics and subtropics.

Sea turtles belong to two families - the Dermochelyidae and the Cheloniidae. There is only one species in the Dermochelyidae family but seven in the Cheloniidae family. We can distinguish each different species by the overall shape of the carapace (body casing) and the pattern of scutes (shell plates) on the head and carapace.



科 Family	學名 Species Name	英文名 Common Name	中文名 Chinese Name
稜皮龜科 Dermochelyidae	<i>Dermochelys coriacea</i>	Leatherback	稜皮龜
海龜科 Cheloniidae	<i>Caretta caretta</i>	Loggerhead	蠟龜
	<i>Chelonia agassizii</i>	Black Turtle	黑海龜
	<i>Chelonia mydas</i>	Green Turtle	綠海龜
	<i>Eretmochelys imbricata</i>	Hawksbill	玳瑁
	<i>Lepidochelys kempii</i>	Kemp's Ridley	大西洋麗龜
	<i>Lepidochelys olivacea</i>	Olive Ridley	太平洋麗龜
	<i>Natator depressus</i>	Flatback	平背海龜

香港的海龜品種 *Sea Turtles in Hong Kong*

在本港海域曾記錄到綠海龜、玳瑁、稜皮龜及太平洋麗龜等4種海龜。有些記錄是活生的海龜，另外的則是擱淺的海龜屍體。當中以綠海龜記錄到的次數較多，亦只有綠海龜在本港繁殖。

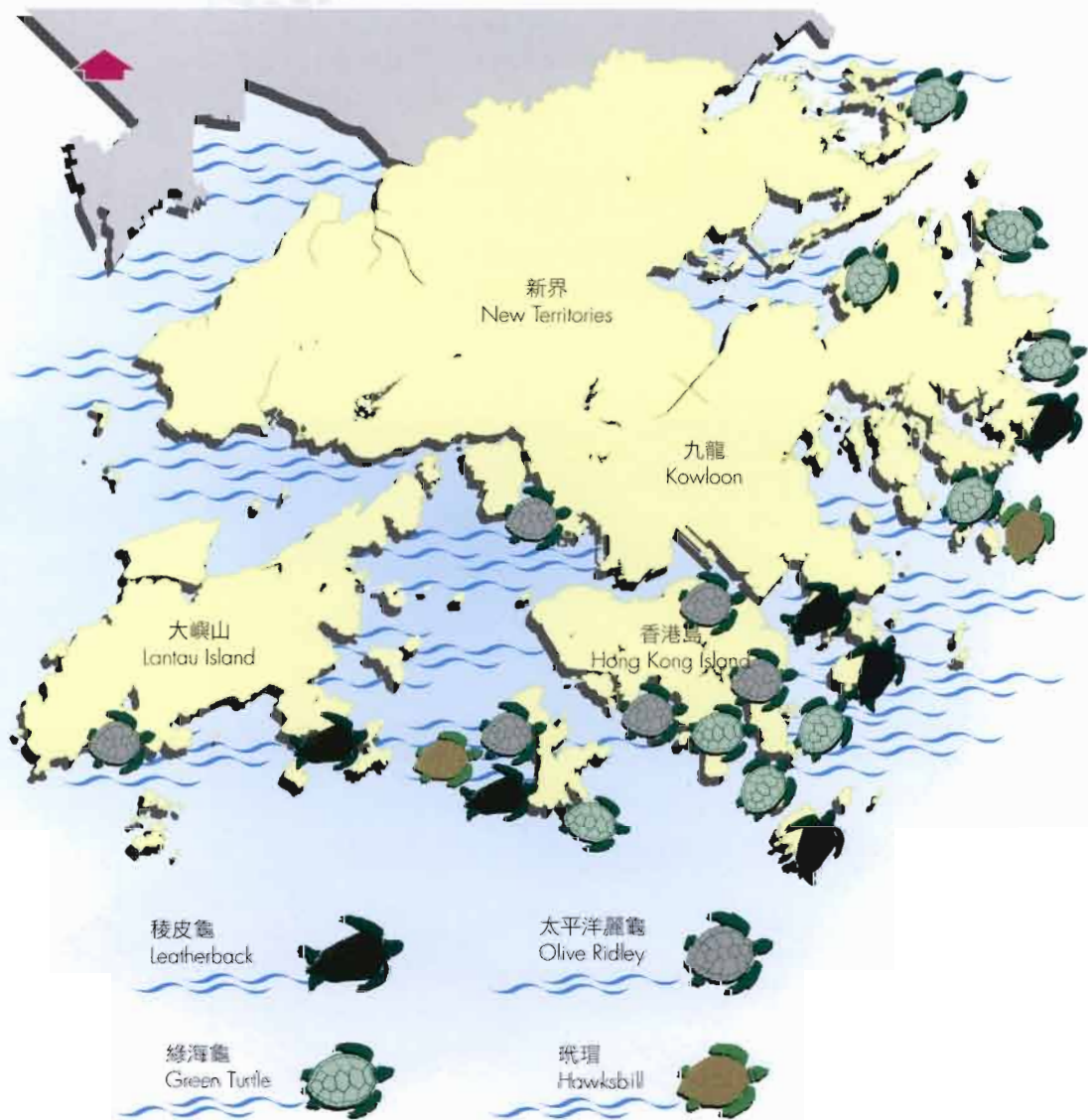
Four species of sea turtle have been recorded in local waters. They are the Green Turtle, Hawksbill, Leatherback and Olive Ridley. Some of the records are of live sightings, while others are from the stranding of dead specimens. Most local records are of the Green Turtle, the only species of sea turtle that breeds in Hong Kong.

在南丫島深灣發現的成年綠海龜。
Adult Green Turtle at Sham Wan, Lamma Island.



在西貢伙頭墳洲附近發現的玳瑁屍體。
Hawksbill carcass found near Town Island, Sai Kung.

香港的海龜品種 *Sea Turtles in Hong Kong*



自1951到2002年在香港水域曾經發現活生或擱淺海龜的地點。

Location map of live sightings and strandings of sea turtles in Hong Kong waters (1951-2002).

綠海龜 *Green Turtles*

由於其體內的脂肪透著淺綠色，所以被稱為綠海龜。綠海龜可能是世界上分佈最廣，及最為人熟悉的海龜品種。成年綠海龜的龜殼呈黃綠或深啡色、闊橢圓形，體長約 70 至 150 厘米。幼龜龜殼的邊緣呈微鋸齒狀，而年長的綠海龜龜殼邊緣則較圓滑。成龜體重約 200 公斤，記錄亦曾發現重逾 400 公斤的綠海龜。綠海龜的眼睛很大，令人覺得它的樣子很溫馴可愛。

我們可以從綠海龜的尾部鑑定其性別。雄性有長而大的尾部，尾部尖端離龜殼很遠。雌性的尾部則比較短小。另外，雄龜前肢擁有一對比雌龜更發達及彎曲成鈎狀的爪。

The Green Turtle, named after the greenish color of its body fat, is perhaps the most widely distributed and best known of the sea turtles. Adults have a large, broad, oval-shaped carapace, olive or dark brown in color, and are from 70 to 150 cm in length. The carapaces of young individuals have a slightly serrated margin, but those of adults gradually become smoother. The average weight of adult Green Turtles is about 200 kg, but large individuals weighing over 400 kg have been recorded. Their eyes are very large, giving Green Turtles a gentle docile look.

We can tell the sex of an adult Green Turtle by its tail. Males have large long tails that extend well beyond the carapace - whereas females have smaller shorter tails. Also the hook-like claws on the front flippers are more developed in the males.



綠海龜 Green Turtles



龜殼邊緣呈微鋸齒狀的幼龜。

A young Green Turtle with a slightly serrated carapace margin.

12

雌性的綠海龜
Female Green Turtle

Female Green Turtle

發達的爪
Well-developed claw

雄性的綠海龜
Male Green Turtle

Male Green Turtle

長而大的尾部
Large and long tail

細小的爪
Small claw

Small claw

短小的尾部
Small and short tail

Small and short tail



食物 Diet

綠海龜為雜食性動物。成龜的食物以海草及海藻為主，它們的腸道中有特殊的細菌，幫助消化食物中的植物纖維，這種草食性的特質在海龜當中為綠海龜所獨有。成龜也間中吃海棉、水母、墨魚及小蝦等海洋無脊椎動物和魚類。小海龜則比較喜歡捕食魚卵和軟體類、小蝦及水母等細小的海洋無脊椎動物。

由於成龜主要以營養價值較低的海草及海藻為食，綠海龜一旦過了幼年期，生長速度便會減慢，因此需時多年才會到達成熟期。

Green Turtles are omnivorous. Adults feed mainly on seagrass and seaweed, a habit that is unique amongst sea turtles. Inside their gut, Green Turtles have specialized bacteria that help in digesting plant matter. They also consume, to a lesser extent, fish and marine invertebrates - such as sponges, jellyfish, shrimps and squid. Juveniles prefer fish eggs and small marine invertebrates - such as mollusks, small shrimps and jellyfish.

This predominantly vegetarian diet, and the low nutritional values of seagrass and seaweed, explain why Green Turtles have a slow growth rate. And why, once they have passed the juvenile stage, their adult maturity develops late.





分佈 *Distribution*

綠海龜分佈在全世界包括大西洋、地中海、太平洋及印度洋等溫暖的海域。在中國，由北方的山東省到南面的台灣海域，以至中越之間的北部灣，都可以發現綠海龜的蹤跡。

在本港，我們間中於南丫島、西貢及東南面的水域發現綠海龜。

Green Turtles can be found in warm seas throughout the world including the Atlantic, Mediterranean, Pacific and Indian oceans. In China, the Green Turtle range extends from Shangdong Province in the north, past Taiwan, and on to Beibu Gulf (between China and Vietnam) in the south.

Green Turtles are occasionally seen in the waters off Lamma Island, Sai Kung and the southeastern parts of Hong Kong.

生境 Habitat

綠海龜大部份的時間都棲息於水生植物茂盛的淺海區。在繁殖季節來臨前，成龜會離開棲息地，在茫茫大海中作長途旅程，向出生地進發。雄龜會在出生地附近的海域逗留及與雌龜交配，而雌龜則會在交配後上岸產卵。由於雄龜在孵化後便一直在海中生活，而不返回陸地，因此我們便很少見到雄性綠海龜的蹤影。

綠海龜通常在水面或水底下的石縫中睡覺。小海龜則喜愛浮在水面，並將手腳反放在龜殼上睡覺。

Green Turtles spend most of their time in shallow water feeding grounds that have abundant aquatic plants. Before the breeding season, mature turtles start their long journey across the open seas, heading for their natal beach for mating and nesting. Once arrived in the waters off their natal beach, the male turtles remain in the sea to mate. But the females, after mating, return to land to nest. Male turtles, after hatching and leaving their natal beach, never again return to land - and so they are rarely seen.

Green Turtles sleep either on the sea surface or in underwater rock crevices. Baby turtles usually sleep by floating at the surface and resting their flippers over the back.



人工孵化的海龜幼仔在水族箱的水面上睡覺。

Artificially incubated baby turtles sleeping at the surface of an aquarium.



生境 Habitat



綠海龜在夏天的繁殖季節會於深灣及其鄰近海灣進行交配及產卵的活動。

The mating and nesting of Green Turtles takes place at Sham Wan, and its sea inlet, during the summer breeding season.



繁殖 Reproduction

在繁殖季節，成年綠海龜在本能的驅使下從數百以至數千公里以外的棲息地，洄游到出生地附近的淺海區交配。交配後，母龜會在晚上爬上沙灘，選擇遠離潮漲水位的合適地點挖洞產卵。

築巢時，母龜先以前肢在沙灘上清理一個地方，然後再以後肢挖一個深約50厘米的壺狀坑洞。母龜將蛋產在坑洞後，會以前後肢撥沙覆蓋坑洞。整個吃力的過程通常需要大概2至3小時，但亦可能要數個小時才能完成。產卵後，母龜便會回到大海中，不會照顧海龜蛋或小海龜。

母龜在產卵前會保持高度的警覺，這時它對外界的干擾十分敏感。一枝火柴的火光、輕聲的談話或任何的動作，都會令母龜放棄產卵，並立刻回到大海中。相反，當母龜開始產卵時，它便會進入忘我的境界。這時母龜對周圍環境所發生的事情都不會作出反應，只會集中精神產卵。母龜產卵時的眼淚，其實是淚腺的分泌物，藉以排出體內多餘的鹽份。淚水亦能在母龜產卵時，避免沙粒進入母龜的眼睛。

海龜蛋是白色的，其大小和一個乒乓球差不多。海龜蛋的革質蛋殼跟雞蛋的硬殼有所不同，蛋殼柔韌的特性令海龜蛋在產下坑洞時不會跌破。一窩海龜蛋大約有100多隻，身型較大的母龜通常會產下較多的蛋，本港曾記錄得一隻巨大母龜產下一窩150多隻的海龜蛋。

母龜並不是每年都產卵，通常相隔2至5年才產卵一次。但母龜可以在一個產卵季節產下3至5窩卵，每次相隔約12至14日。換言之，一隻母龜在一個產卵季節可以產卵數百隻之多。

在本港，每年的6月至10月為綠海龜的繁殖季節。



在本港，每年的六月至十月為綠海龜的繁殖季節。

The breeding season of Green Turtle in Hong Kong is from June to October.



繁殖 *Reproduction*

During the breeding season, instinct drives mature Green Turtles to travel hundreds or even thousands of kilometers from their feeding grounds to the waters off their natal beach. Mating takes place in the shallow inshore waters. After mating the females go ashore at night - to search for suitable sites, above the high tides, to lay their eggs.

Their nests are simply flask-shaped holes dug on the sand. Nesting females use their front flippers to clear off a nesting area, then they use their hind flippers to dig a nest about 50 cm deep. The female lays her eggs inside this hole. She then covers the nest with sand, using sweeping movements of her front and hind flippers. It can take a female turtle a few hours to complete this laborious nesting process, but the average time is about 2 to 3 hours. With her eggs laid, the female then returns to the sea. No parental care is given to the eggs or to the hatched baby turtles.

18

Before laying her eggs, a nesting female remains alert and is very sensitive to any nearby disturbances. The light from a match, whispering or the least movement would lead the female to abandon nesting and return to the sea immediately. But once the female begins to lay eggs, she is oblivious of her surroundings and concentrates on her innate task of egg-laying. "Tears" coming from her eyes during nesting are, in fact, secretions produced by the lachrymal glands for the excretion of excess salts from the body. The tears also help to prevent sand from entering the eyes.

Green Turtle eggs are white, and about the size of a ping-pong ball. Unlike the hard-shelled chicken egg, the shells of sea turtle eggs are leathery and flexible, protecting the egg from breaking when it drops into the nesting hole. The clutch size is about 100 eggs. Larger females tend to lay more eggs, and a clutch of over 150 eggs has been recorded from one nesting female in Hong Kong.

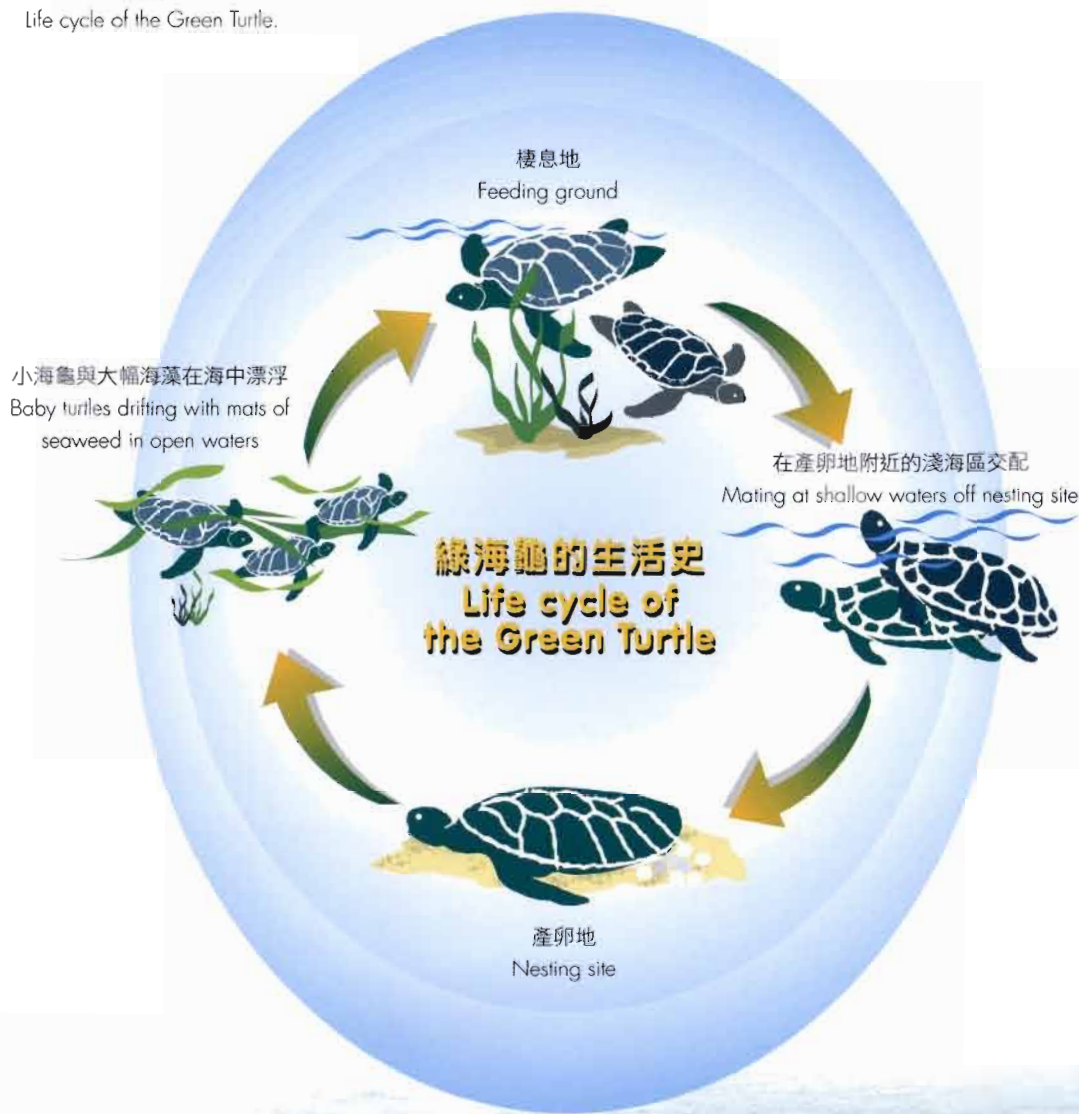
Females usually nest once every two to five years. They can lay three to five clutches of eggs in a season, at intervals of 12 to 14 days, giving a total fecundity of several hundreds of eggs.

In Hong Kong, the Green Turtle breeding season lasts from June to October.

繁殖 Reproduction

綠海龜的生活史。

Life cycle of the Green Turtle.





繁殖 *Reproduction*

母龜爬上沙灘產卵及離開時，會在沙灘上留下一條像坦克車駛過的痕跡。我們能夠從“龜路”的形狀推斷母龜有否產卵。

A "tank track" - the track left by a nesting female. The female has crawled up the beach to lay eggs and returned to the sea afterwards, leaving these tracks in the sand. These particular track patterns show that the female has laid her eggs.



繁殖 Reproduction

一隻母龜在沙灘上剛築好一個巢。

A female has just dug a nest on the sandy beach.



一隻正在產卵的母龜。由於蛋殼柔韌，所以海龜蛋在產下坑洞時，並不會跌破。

An egg-laying female. The egg shell is leathery in texture, thus protecting the egg from breaking when it drops into the nesting hole.



產卵後的母龜離開沙灘，返回大海。產卵的過程可能需要數個小時才完成。

A female heading back to the sea after laying eggs. A nesting female takes several hours to complete the egg-laying process and return to the sea.



繁殖 Reproduction



母龜產卵時的眼淚，其實是淚腺的分泌物，藉以排出體內多餘的鹽份。

"Tears", seen here in a nesting female, are secretions produced by the lacrimal glands for excretion of excess salts from the body.



孵化及成長 *Hatching and Growth*



海龜蛋在巢中會自然地孵化，孵化期視乎周圍環境的溫度及天氣而定，通常兩個月左右小海龜便會孵出。溫度對幼龜的性別有決定性的影響，溫度較高會孵出較多雌性，反之溫度較低則會孵出較多雄性。初生的小海龜只有5厘米長，重約23克（相當於一枚AA電池）。

窩裏的海龜蛋不會在同一刻孵化。由於單一隻小海龜很難憑一己之力爬出巢窩，較先孵化的小海龜會留在破殼內。直至大多數海龜蛋孵化後，整窩小海龜便會在黃昏或白天雨後，地面溫度較低時，一起向上挖沙爬出地面。這時所有在窩裏的小海龜兄弟姊妹便會同一時間一起向上爬，然後傾巢而出。到達地面後，小海龜便不顧一切向大海爬去，然後依附在大幅漂浮的海藻上隨水漂流。海鷗及大魚都是小海龜的天敵，但小海龜黑色的背部及白色的底部在大海中起著保護色的作用，令到天敵很難發現它們。

小海龜大約一年後便會游到棲息地生活。小海龜在最初數年內的生長速度頗快，然後逐漸減慢。在大自然中，綠海龜可能需時二、三十年才達到成熟階段。



初生的小海龜只有5厘米長，重約23克。
A newly hatched baby turtle, about 5 cm in carapace length and 23 g in weight.



小海龜離開它們的出生地。
Baby turtles, leaving their natal beach.

孵化及成長 *Hatching and Growth*



Eggs are incubated in the nest naturally and, depending on the nest temperature and the weather, incubation normally lasts about two months. The sex of the hatchlings (baby turtles) is determined by the incubation temperature. Higher temperatures produce more females, but males predominate when the temperature is lower. Newly hatched baby turtles are about 5 cm in carapace length and 23 g in weight (about the weight of an AA battery).

Eggs in the same nest do not hatch at the same time. But the baby turtles hatched earlier stay within their broken shells, inside the nest, until all - or almost all - of the eggs have hatched. This is to overcome the problem of digging up towards the surface. For a single baby turtle alone, this would be physically impossible - but the whole nest of baby turtles can together emerge by digging up to the surface together. This is done by the concerted digging efforts of all siblings during the early evening, or during daytime after rain when the sand temperature is lower. Once on the surface, the hatchlings instinctively - and immediately - head down towards the sea, then drift with mats of floating seaweed into the open water. Once in the sea the hatchlings' dark carapaces and white underside plastrons act as a camouflage against predators from the sky, like seagulls - or sea predators, like fish.

Young turtles move to their feeding grounds about a year or so later. Green Turtles are relatively fast growing during the first few years, then the growth rate slows down. In the wild, it may take a Green Turtle 20 to 30 years to reach sexual maturity.



同一窩的小海龜兄弟姊妹。
Green Turtle siblings of the same nest.

國際及地區上的情況

International and Regional Status

綠海龜是高度瀕危的動物，已被列入「瀕危野生動植物種國際貿易公約」¹及「保護遷徙野生動物公約」²的附表I中，象徵國際間對保護綠海龜的重視及所作出的協議。目前並沒有全球綠海龜數目的資料。然而，據觀察所知，世界各地產卵母龜的數目，在近數十年來都大幅下降。這個情況引起人們的關注，國際間亦因此對綠海龜的保護作出了很多的努力。

綠海龜是中國「國家重點保護野生動物名錄」中的國家二級保護動物。綠海龜在國內受到國家級的保護，禁止捕獵及作商業的用途。全中國最著名的綠海龜產卵地位於廣東省惠東縣港口鎮，是國家級的海龜自然保護區。最近，保護區更被列入「拉姆薩爾公約」³中的國際重要濕地名錄，成為中國的其中一個拉姆薩爾濕地，更進一步證明保護區在國際上對保護綠海龜的重要性。

本港的深灣及惠東的港口海龜國家級自然保護區，是少數現存於南中國海域內的綠海龜產卵地。

註：

- 1 瀕危野生動植物種國際貿易公約，或稱華盛頓公約。
- 2 保護遷徙野生動物公約，或稱波恩公約。
- 3 拉姆薩爾公約或稱濕地公約（本港著名的米埔自然護理區及其鄰近的濕地，亦以雀鳥的多樣性及其它特別的生物特徵，而被列為拉姆薩爾濕地）。



位於中國廣東省惠東縣的港口海龜國家級自然保護區。
Gangkou National Nature Reserve for Sea Turtle in Huidong County of Guangdong Province, China.



國際及地區上的情況 *International and Regional Status*

Green Turtles are listed in Appendix I of the CITES¹ and the Bonn Convention², indicating the international recognition and agreement to protect this highly endangered species. No one knows how many Green Turtles are present in the ocean. However, it has been observed that the number of nesting females has declined significantly in the last few decades in many parts of the world. This has led to concern about the survival of the species, and hence the international efforts to protect Green Turtles.

In mainland China Green Turtles are listed as a Class II Protected Animal in the List of State Key Protected Wildlife in China, giving the animal a national protection status against hunting and commercial exploitation. The nesting beach at Gangkou, in Huidong County, Guangdong Province, is a national nature reserve for Green Turtles. It has recently been listed as one of the Ramsar Sites (Wetlands of International Importance listed under the Ramsar Convention³) in China, indicating a further recognition of the international importance of the nesting site for the conservation of this species.

Sham Wan in Hong Kong, and Gangkou National Nature Reserve for Sea Turtle, are among the few remaining nesting sites for sea turtles along the coast of South China.

Notes:

- 1 CITES - Convention on International Trade in Endangered Species of Wild Fauna and Flora, or Washington Convention
- 2 Bonn Convention - Convention on the Conservation of Migratory Species of Wild Animals
- 3 Ramsar Convention - Convention on Wetlands (In Hong Kong, the renowned Mai Po Nature Reserve and its surrounding wetlands have also been listed as a Ramsar Site for the diversity of birds and other special biological features of the area)



在本港的情況 *Local Status*

根據歷史的記載及村民的憶述，本港不少僻遠的沙灘，如南丫島的東澳、下尾灣、大嶼山的塘福廟灣、大浪灣，甚至港島的石澳及大潭灣等，在數十年前都有海龜上岸產卵。由於市區及郊區迅速的發展，我們已沒有在這些沙灘發現海龜產卵了。

時至今日，南丫島的深灣仍有一小群綠海龜經常上岸產卵，是本港唯一現存的綠海龜產卵地。除了早期的零碎記錄外，我們近年來都記錄到綠海龜經常在深灣上岸產卵。

此外，在東平洲、赤門、西貢大浪灣、香港島的石澳、鶴咀，和南丫島的東澳等地亦有發現活生或擱淺的綠海龜。

According to historical records and local villagers' memories, some decades ago sea turtles used to nest in many remote beaches in Hong Kong: Tung O and Ha Mei Wan on Lamma Island; Tong Fok Miu Wan and Tai Long Wan on Lantau Island; and even Shek O and Tai Tam Bay on Hong Kong Island. But due to rapid urban and rural development, and human activities around these areas, sea turtles no longer nest there today.

Sham Wan, on Lamma Island, is now the only Hong Kong site in which a small population of Green Turtles is known to nest regularly. In addition to some sporadic and incomplete historical records, we have recorded regular nesting of Green Turtles at Sham Wan beach in recent years.

Records of Green Turtles are known from strandings or live sightings in other parts of Hong Kong, such as Tung Ping Chau, Tolo Channel, Tai Long Wan of Sai Kung, Shek O and Cape D'Aguiar on Hong Kong Island, and Tung O of Lamma Island.





在本港的情況 Local Status



本港現存的綠海龜產卵地 - 深灣。南丫島的深灣是一個向南及為群山圍繞的內海灣。
A panoramic view of Sham Wan, the last remaining Green Turtle nesting site in Hong Kong. Sham Wan is a south-facing sea inlet surrounded by steep hills.



危害海龜的活動 Threats

在綠海龜還未受到保護前，人類在世界各地都曾大量捕獵綠海龜，以獲取它們的蛋、肉、脂肪、甲殼及皮革。甚至連小海龜亦被製成標本，賣給遊客作紀念品。

除了直接採捕外，人類的活動對綠海龜的生存亦帶來其它的影響。由於綠海龜擁有洄游到其出生地產卵的習性，任何改變其產卵地自然環境或阻礙其洄游路線的發展及活動，都有可能令到本地的種群滅絕。海灘的發展、馬路或康樂活動所製造的燈光及噪音，均會影響母龜，令母龜放棄上岸產卵。此外，在沙灘背後的強光會令剛孵化的小海龜迷失方向，向較光的陸地爬去，並引致死亡。

海洋的污染對綠海龜的健康及生存，有著長遠而重大的影響。綠海龜若吞食了像魚絲、膠袋或其它不能生物分解的人造產品，會引致消化不良及食道阻塞，嚴重的可能會導致死亡。堆積在沙灘上的垃圾，除了妨礙母龜登陸沙灘築巢外，小海龜亦可能被垃圾絆纏著而不能爬入大海。

在繁殖季節中，於海灣內活動的船隻及特別是在夜間使用聚光燈的捕魚活動，亦會妨礙海龜的交配及產卵活動。此外，海龜亦可能意外地被魚網纏著或為螺旋槳所傷。

由於很多小海龜在自然環境中都會被捕食及死亡，因此它們的存活率十分之低。有估計指出，在自然環境中，一千隻小海龜當中只有一隻能夠長大為成龜。另外，由於綠海龜通常每2至5年才繁殖一次，非法挖取海龜蛋，會令到整個種群因缺乏新生小海龜的補充，而使到該地海龜的數目劇減。





危害海龜的活動 Threats

Before they were made a protected species, Green Turtles had been intensively exploited by humans in many parts of the world. They were hunted for their eggs, meat, fat, shell and leather. Small turtles were even made into stuffed specimens for selling as a souvenir to tourists.

Apart from such direct exploitation, human activities have had various negative impacts on the survival of Green Turtles. As they invariably return to their natal beach to nest, any development or human activities that affect the natural environment of the nesting site, or impact on their migratory routes, will severely affect turtle populations. Illumination and noise produced behind nesting beaches, resulting from development, roads or recreational activities, deter females from coming ashore to nest. Also, intensive illumination at the back of the beach will disorient the baby turtles, preventing them from heading straight back to the sea, and so causing the deaths of confused and thus stranded baby turtles.

Ocean pollution has a serious long-term impact on the healthy survival of Green Turtles. Fishing lines, plastic bags or other non-biodegradable man-made products, if swallowed, are often fatal to the turtles - causing indigestion and even blocking the digestive tracts. Debris washed ashore hinders the movement of nesting females and baby turtles, causing obstructions to nesting females, and threatening the baby turtles by trapping them among the debris.

Boating and fishing - in particular night fishing with spotlights - near nesting beaches during the breeding season will disturb the mating and nesting process. The turtles can also be accidentally caught in nets or hit by propellers.

Even in "pristine" natural conditions, baby turtles have a very low survival rate, due to natural predation and mortality. Indeed, it is estimated that only one in a thousand baby turtles normally survives to reach adulthood in the wild. As mature turtles only lay eggs once every two to five years, the poaching of eggs by people will eliminate new recruits to the existing population - thus causing severe population declines.

危害海龜的活動 Threats

沙灘上的垃圾會妨礙母龜的產卵過程。
Refuse washed ashore hinders the nesting of female turtles.



堆積在產卵沙灘上的垃圾會影響綠海龜的活動。
Refuse on nesting beaches presents a threat to Green Turtles.

自然護理工作 Conservation Measures

由於香港的環境不斷改變，近年來已很少發現海龜的蹤跡，因此大家更應珍惜及愛護本港現存的綠海龜產卵地。若綠海龜受到干擾而不能在南丫島繼續繁殖，在這一代的成龜死亡後，這種稀有的動物將會在本港消失。

由於綠海龜的壽命極長，即使它們在過去多年未能成功產卵，我們亦很難察覺到海龜的數目有沒有顯著的減少。但是，一旦這種情況持續下去，待大部份成龜年老死亡後，我們將無法挽回這種稀有動物在本港消失的命運。

要令綠海龜繼續在本港生存，我們必須給予適當的關注及做好保護的工作。漁農自然護理署的「香港綠海龜護理計劃」是一個專為保護本地綠海龜而制定的計劃，內容包括法定保護、劃定產卵地為保護區、定期巡邏、研究、產卵地護理、人工孵化、跟有關機構合作及教育等。

Because of Hong Kong's changing environment, sightings of sea turtles in local waters are now rare. As such, we must treasure the fact that Green Turtles still nest at Sham Wan on Lamma Island. If the nesting of these native Green Turtles fails, due to human disturbances or other factors, the local population will inevitably decline with the simultaneous natural mortality over time of older adult turtles.

As Green Turtles are long-lived, their population levels may not decline at first - even for many years after the original impacts of human disturbance. But once a declining population trend is established, and as most adults of the local nesting population become aged and die, the population may suddenly "crash" - and then local extinction will be rapid and irreversible.

Concern and dedicated conservation efforts are essential for the continued survival of Green Turtles here. Various conservation measures have now been put in place by the Agriculture, Fisheries and Conservation Department (AFCD), as part of the "Hong Kong Green Turtle Conservation Program". The measures include legal protection, designation of the Sham Wan nesting area as a protected area, regular warden patrols, studies, management of the nesting site, artificial incubation, cooperation with various relevant parties, and public education about turtle conservation.

有關保護海龜的法例 Legal Protection

在本港，綠海龜是受法例保護的動物。兩條不同範疇的條例分別對保護綠海龜作出不同的法定規例。

In Hong Kong, Green Turtles are protected by law. Two ordinances with different powers make legal provisions for the protection of these turtles.

香港法例第 170 章 < 野生動物保護條例 >

Wild Animals Protection Ordinance Chapter 170

「野生動物保護條例」是為保護野生動物而設的。在該條例下，任何人士若未持有有效許可證而去捕捉、擁有、售賣或出口於香港取得的海龜或海龜蛋或故意干擾海龜、其巢穴或海龜蛋，均屬違法。一經定罪，違例者最高可被判罰款十萬元及監禁一年。

The Wild Animals Protection Ordinance protects wild animals. Under the ordinance, it is an offence to take, possess, sell or export any sea turtle and its egg, or disturb any sea turtle, its nest or egg without a valid permit. Offenders face a maximum fine of \$100,000 and one year imprisonment.

香港法例第 187 章 < 動植物（瀕危物種保護）條例 >

Animals and Plants (Protection of Endangered Species) Ordinance Chapter 187

「動植物（瀕危物種保護）條例」規管瀕危動植物的進出口及管有。任何人士若未持有有效的許可證而進口、出口或管有海龜、海龜蛋、海龜的身體部份或其製品，均屬違法。一經定罪，違例者最高可被判罰款五百萬元及監禁兩年。

The Animals and Plants (Protection of Endangered Species) Ordinance restricts the import, export or possession of endangered species of animals or plants. Any person who imports, exports or is in possession of a sea turtle, its egg, part or product without a license, faces a fine of up to \$5,000,000 and imprisonment for two years.

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

為了確認其在生態上的價值及科學上的重要性，深灣的沙灘及鄰近淺灘在 1999 年 6 月被列為「具特殊科學價值地點」。為避免發展對綠海龜的產卵地帶來影響及干擾，該地亦在南丫島分區計劃大綱草圖被劃為「具特殊科學價值地點」，除了少數有利於保護該地點或作教育的用途外，禁止進行任何發展，以免對該地造成滋擾。

The Sham Wan nesting beach, and its nearby shallows, were made a Site of Special Scientific Interest (SSSI) in June 1999 in recognition of its ecological value and scientific importance. The SSSI has also been marked in the Lamma Outline Zoning Plan, indicating that the area should be protected against disturbance and encroachment by development. Only a few listed uses, essential to sustain the site or conducive to the conservation or education purposes, are permitted.



深灣的具特殊科學價值地點，範圍包括沙灘及鄰近的淺灘。

The Sham Wan SSSI includes the sandy beach and its nearby shallows.

限制地區 Restricted Area

在 1999 年 7 月，政府根據〈野生動物保護條例〉將南丫島深灣的沙灘列為「限制地區」，以避免及減低人們對綠海龜及該產卵地的滋擾。

每年由 6 月 1 日至 10 月 31 日，即綠海龜的繁殖季節，禁止未持有有效許可證人士進入該區，違例者可能遭受檢控，最高可被判罰款五萬元。限制地區的主要入口設有告示牌，清楚顯示限制地區的範圍。

漁農自然護理署在該區設立了一個自然護理員站崗，方便自然護理員執行保護海龜的職務，及監管深灣的沙灘。

To avoid or minimize human disturbance to the Green Turtle nesting site, the sandy beach at Sham Wan was gazetted as a Restricted Area, under the Wild Animals Protection Ordinance in July 1999.

During the nesting season, legally set from 1 June to 31 October each year, people who enter this area without a valid permit face a maximum fine of \$50,000. Notices that indicate the boundary of the Restricted Area are erected at the main entry points.

A warden post is now set up at Sham Wan, serving as a monitoring and management station for AFCD nature wardens, to carry out their duties in the Restricted Area which aim to protect the Green Turtles.



南丫島深灣的沙灘自 1999 年被列為「限制地區」，以保護綠海龜。
The beach at Sham Wan has been gazetted as a Restricted Area since 1999 for the protection of the Green Turtles.



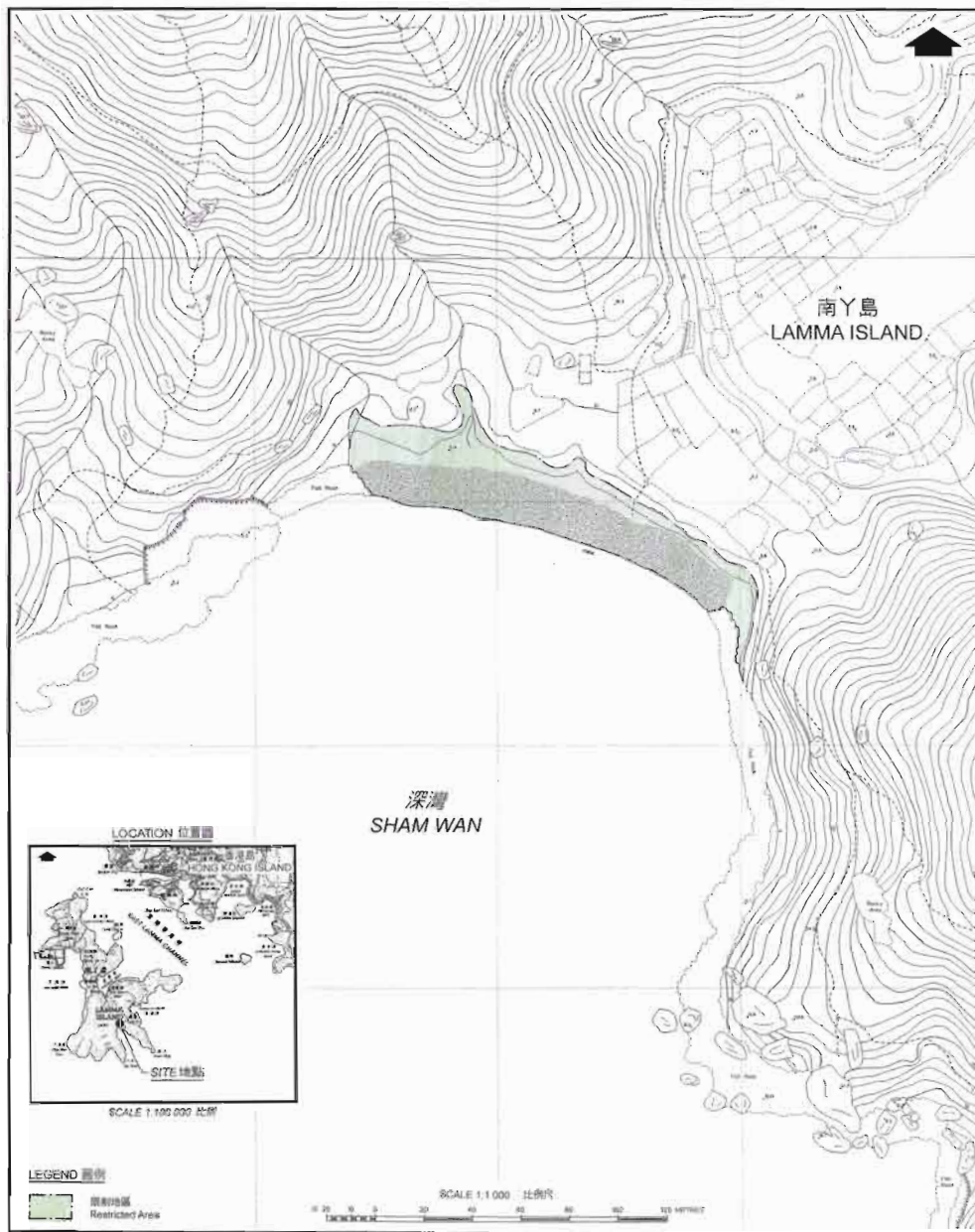
每年由 6 月 1 日至 10 月 31 日，禁止未持有許可證人士進入。
During the period from 1 June to 31 October, it is illegal to enter this area without a permit.



深灣的自然護理員站崗。
The Sham Wan warden post.

限制地區 Restricted Area

36



深灣的限制地區。
Sham Wan Restricted Area

產卵地的護理 *Management of the Nesting Site*

每年，在產卵季節來臨前，漁農自然護理署都會進行一些護理產卵地的工作，當中包括清除沙灘上的雜草和垃圾及定期監察沙灘的環境等，為綠海龜提供一個合適的產卵地。

漁農自然護理署每年都需要清除沙灘上以白背蔓荊為主的蔓藤，以防止這些生長得十分茂密的雜草，阻礙綠海龜上岸產卵及危害海龜蛋。交纏成網狀的蔓藤除阻礙母龜爬上岸外，亦令它在挖巢時倍感困難。雜草的根亦可能穿透巢窩，包纏著海龜蛋，並令其死亡。當孵化後的小海龜爬出沙灘時，這些雜草也可能絆纏著小海龜，而令它們不能爬入大海。

垃圾對母龜及小海龜都構成威脅。從每年的5、6月開始，由海灣吹向沙灘的南風，都會將大量海面漂浮的垃圾，隨潮漲帶到沙灘。食物環境衛生署、漁農自然護理署及義工都會將這些垃圾清理，以免阻礙綠海龜在沙灘上活動。

自然護理員亦會定期監察沙灘的環境，例如沙灘的地貌，以確保沙灘適合綠海龜產卵。



自然護理員正協助一隻被雜草絆纏著的母龜離開沙灘。

Nature wardens help to free a nesting turtle, entangled in weed, as it headed back to the sea.

產卵地的護理 *Management of the Nesting Site*

Before the start of each nesting season, AFCD carries out conservation management of the nesting site. Various management measures are carried out, including removing weeds, collecting refuse, and regular monitoring - with the aim of making the nesting site for the turtles as natural as possible.

Each year the climbing weed (mainly *Vitex rotundifolia*), which grows profusely on the nesting beach, has to be removed to prevent it from harming the nesting turtles or their eggs. This net-like weed hinders turtles coming ashore, by entangling them and making it difficult for them to dig a nest. Its roots also penetrate the nests, and kill the eggs by engulfing them. The weeds also trap turtle hatchlings crawling down the beach.

Refuse presents a major threat to nesting females and baby turtles. Starting from May to June, the southerly winds, and incoming tides, wash large amounts of marine rubbish onto the beach. This beach rubbish is cleared away by Food and Environmental Hygiene Department, AFCD and its helpers, to prevent it from causing a hazard to turtles on the beach.

AFCD also monitors the site's general conditions, such as the beach profile, to ensure that the beach remains suitable for the nesting of the Green Turtles.



生長得十分茂密的雜草，阻礙綠海龜上岸產卵，及影響海龜蛋的孵化。

Climbing weed growing profusely on the nesting beach is a hazard to the nesting turtles and their eggs.

人工孵化 *Artificial Incubation*

母龜產卵後，我們在正常情況下會優先考慮在原地保護海龜蛋，讓海龜蛋自然孵化。若果原地保護並不可行，我們便要選擇移取海龜蛋進行人工孵化，以確保海龜蛋的安全。

自 1998 年開始，漁農自然護理署以人工方法孵化了數批綠海龜的蛋，這些海龜蛋都因為巢窩受到水浸的威脅，而被移走進行人工孵化。水浸的原因有兩種：第一種是海龜蛋的巢窩過於接近海邊，易受潮水所淹蓋。另一種是在母龜產卵後，產卵地持續下大雨，而連場大雨會引致巢中積水，令海龜蛋窒息，並導致裏面的胚胎死亡。在這些情況下，我們便無法在原地保護海龜蛋。為了拯救海龜蛋，我們只有第一時間移走海龜蛋進行人工孵化，避免整窩海龜蛋因水浸引致窒息而死亡。

進行人工孵化的海龜蛋會被放置在孵化箱內，並鋪上從產卵地取來的沙進行孵化。孵化箱須保持在攝氏 28 度至 30 度及適當的濕度。大約兩個月後，小海龜便會孵出。小海龜出生後，我們會把它們放養在水族箱中，照顧一段短時間後，便會將小海龜放回大自然。截至 2002 年，用人工方法成功孵化並放回大自然的小海龜已超過 250 隻。



在水族箱中暢泳的小海龜。小海龜會被照顧一段短時間，然後放回大自然。

Baby turtles swimming in an aquarium tank, where they are kept for a short period before release back to the wild.

人工孵化 Artificial Incubation

Under normal conditions, the first priority for the protection of sea turtles' eggs is to leave them in their nests for natural incubation. However, there are circumstances when removing the eggs is the best conservation option - and sometimes, when in situ protection is impossible, it is an essential last resort. In such cases AFCD will carry out artificial incubation, to ensure the survival and hatching of the rescued eggs.

Since 1998, AFCD has incubated a few clutches of eggs, when they faced threats that would have resulted in the death of the embryos. The eggs were removed due to the risk of submergence either as a result of inundation of nests made too close to the sea or continuous heavy rain. Submergence is known to result in a high embryo mortality because the eggs effectively suffocate. In such cases, in situ protection is impossible - and so the best remedy is to rescue the eggs and remove them to a safe place.

Once removed, the eggs are put inside an incubator which is filled with sand collected from the nesting site and kept at 28 to 30 degrees Celsius and optimal humidity. Baby turtles hatch after about two months of incubation, then they are kept in an aquarium for a

short period before release back to the wild. Up to 2002, more than 250 baby Green Turtles have been successfully hatched by artificial incubation, and released back to the wild.



人工孵化箱內裝滿了從產卵地取來的沙。
The incubation container filled with sand collected from the nesting site.



將進行人工孵化的海龜蛋。
Eggs for artificial incubation.

人工孵化 Artificial Incubation



剛孵化的小海龜，正由弄破的蛋殼中爬出來。
Newly hatched baby turtles breaking free from their egg shells



小海龜美妙的泳姿。
Swimming baby turtles and their graceful postures.

人工孵化 Artificial Incubation

漁農自然護理署的自然護理員小心地將小海龜放回大自然。
AFCD nature wardens carefully release baby Green Turtles back to the wild.



保護及研究 *Protection and Studies*

為保護產卵地及觀察該地的變化，漁農自然護理署的自然護理員經常到深灣巡察。在產卵季節，他們更定期在深灣進行日夜巡邏，以保護上岸產卵的綠海龜及海龜蛋。自然護理員亦會將有關的產卵數據、母龜的大小及海龜蛋孵化的時間等科學資料作出記錄。

母龜產卵後，自然護理員會將母龜在沙灘爬行及挖巢的痕跡掃除，以保護海龜巢免受干擾。他們亦會在產卵季節後將巢挖開及找尋小海龜在沙灘的爬行足跡，以確定海龜蛋是否成功孵化，並檢視海龜蛋的孵化率。

另外，為了辨認每隻來港的海龜身分，漁農自然護理署於 2000 年開始進行標誌放流的研究。在海龜產卵後，自然護理員會將一個刻有香港獨立編號及漁農自然護理署地址的細小合金標誌夾在母龜的前肢上，然後才讓母龜游回大海。本港第一隻被標誌的海龜編號為「HK-001」。

標誌放流的研究是「香港綠海龜護理計劃」的其中一個重要項目，標誌使到我們能夠辨認每隻海龜的身分，有助了解香港綠海龜的種群大小及產卵習性。



自然護理員在產卵季節後，從巢窩中殘留的蛋殼，證實海龜蛋在高中自然地孵化出小海龜。AFCD nature wardens reveal the remains of egg shells after the nesting season, confirming that the eggs have hatched naturally at Sham Wan.



自然護理員將一個細小的合金標誌，夾在母龜的前肢上。標誌放流的研究為「香港綠海龜護理計劃」的其中一個重要項目。Tagging a nesting female by AFCD nature wardens, with a small alloy tag, as part of the "Hong Kong Green Turtle Conservation Program".

保護及研究 Protection and Studies



自然護理員定期在深灣進行巡邏，以保護上岸產卵的綠海龜及海龜蛋。
Nature wardens patrolling the beach at Sham Wan to protect nesting turtles and their eggs.



保護及研究 *Protection and Studies*

Adequate wardening is provided throughout the year to protect the nesting site and to observe any changes at Sham Wan. During the nesting season, AFCD nature wardens regularly patrol the beach at Sham Wan, day and night, to protect nesting turtles and their eggs. Scientific records such as the nesting data, size of nesting females and hatching times are also made.

AFCD nature wardens remove any traces of the nesting tracks, to protect the nests from human disturbance. After the nesting season wardens examine all the nests, to check that their eggs have been hatched naturally and record the hatching rate. They do this by digging up the remains of egg shells, and tracing the hatchlings' tracks down to the sea.

46

Since 2000, AFCD has been tagging the Green Turtles, so as to learn more about the identity of the turtles that nest in Hong Kong. An alloy metal tag, etched with the abbreviation of "HK", an identification number and the address of AFCD is attached to the front flipper of each female before it returns to the sea after nesting. The first turtle tag had the code number "HK-001".

The tagging operation is an important part of the "Hong Kong Green Turtle Conservation Program". It will enable us to identify individual turtles, and help to estimate the overall population size and habits of the Green Turtles that nest in Hong Kong.



衛星追蹤 Satellite Tracking

漁農自然護理署做了很多的護理工作，以確保綠海龜在深灣的產卵地受到適當的保護。可是，由於綠海龜是一種會遷徙的動物，它們喜歡在某處產卵，但會在產卵後游到遠處的覓食地，並留在覓食地的水域生活。所以，我們亦要對綠海龜的遷徙路線及覓食地給予保護。若果我們對本地產卵的綠海龜的遷徙路線及覓食地的位置並不清楚，要全面地做好保護綠海龜的工作便會變得相當困難。

標誌放流在某程度上可幫助我們獲取有關的資料，若有研究人員或其他人士在外地見到附有香港標誌的綠海龜，並通知漁農自然護理署，我們便可以研究該隻海龜的遷徙路線及棲息地的位置。但是，要碰上該隻綠海龜的機會是十分渺茫的。有見及此，漁農自然護理署在2002年採用了一種嶄新的動物追蹤技術，嘗試找出在本地產卵的綠海龜的遷徙路線及覓食地的位置。

在2002年8月9日，待一隻母龜產卵後，漁農自然護理署的職員在南丫島深灣將一個只重750克的微型衛星發訊器安裝在母龜的背甲上。母龜被放回大海後，便向著南中國海的西南面出發，一路沿著海岸線對開的水域游向覓食地。大約十日後，母龜便到達海南島附近的瓊州海峽，平均的游速為每小時1.5至2公里。之後，母龜從瓊州海峽開始，便以每小時0.5公里的較慢速度沿著海南島的東岸游動，直至到達位於海南島中部的萬寧市離岸水域的覓食地。目的地距離本港500多公里。

從衛星發訊器收到的資料顯示，母龜大部份時間都在5公里內的淺海水域範圍內游動，它通常會花15至30分鐘在水底下進食海草及海藻，然後浮上水面呼吸後才再次潛入水中。它間中亦躲在水底差不多一個小時，很可能是在石縫或洞穴中睡覺。該隻母龜會逗留在覓食地生活，大約2至5年後才會在繁殖季節再次洄游到深灣產卵。

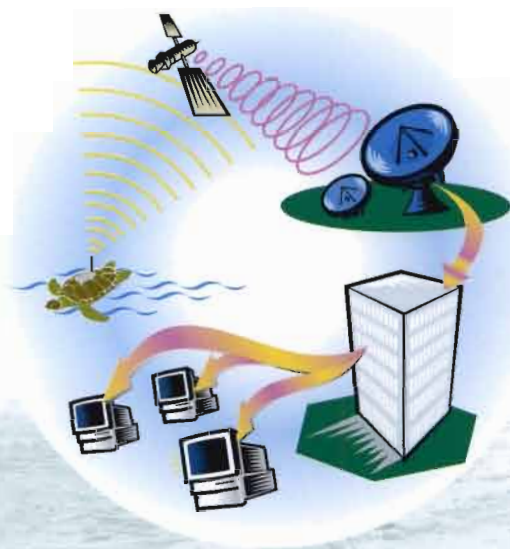
在國內及台灣，亦曾進行以衛星追蹤綠海龜產卵後的遷徙研究。研究結果顯示同一個產卵地的不同母龜有不同的遷徙路線及覓食地。在廣東省惠東縣港口海龜國家級自然保護區進行衛星追蹤的三隻母龜，會沿著南中國海的海岸線或大海的方向遷徙，而它們的覓食地分別位於海南島及日本的沖繩島。在台灣方面，母龜的遷徙路線就更為多樣化，它們的覓食地包括海南島、琉球群島、台灣本島及日本。

由於我們暫時只對一隻綠海龜進行了衛星追蹤，因此現時還未能確定其它在本地繁殖的綠海龜是否會沿著相同的路線遷徙及以海南島作為它們的覓食地。但是，這項研究顯示，南中國海的沿岸及海南島肯定是其中的（甚至是唯一的）一條遷徙路線及覓食地之一。

衛星追蹤 *Satellite Tracking*

Dedicated conservation efforts have been put in place by AFCD to safeguard the nesting beach for Green Turtles at Sham Wan. These will ensure that the local nesting population is properly protected at the nesting site. However, as the Green Turtle is a migratory species, which nests in one place but migrates to a distant feeding ground after nesting and spends most of its time there, we should also protect the turtles during their migration and at the feeding ground itself. In this regard, lack of knowledge concerning the migratory pathway, and the location of resident feeding grounds, make it difficult if not impossible to draw up a comprehensive protection strategy for the population of the Green Turtles nesting at Sham Wan.

The tagging operation would help us to collect some information in cases where researchers or members of the public in other countries may come upon turtles tagged in Hong Kong. It is hoped that in such cases we will be informed - making it possible for us to research the migratory routes and feeding grounds of the "Hong Kong" turtles. However, this would depend on the rare chance of encountering a tagged turtle. Therefore, AFCD has adopted a novel animal tracking technology in 2002 in order to ascertain the migratory pathways and locations of resident feeding grounds for Green Turtles.



衛星追蹤 - 簡單地說，衛星發訊器發出的訊號會被在上空經過的衛星轉送到地面的接收及分析中心，該中心會將有關發訊器的地理位置及其它資料計算，再將運算的結果經由互聯網傳送到用戶。

The process of satellite tracking basically involves the satellite transmitter sending a signal to the satellite passing overhead, which relays the signal to the ground receiving and processing centre. The geographical position of the transmitter and other data from the signal are then calculated and the results are sent to the user through the Internet.

衛星追蹤 Satellite Tracking



在母龜產卵後，漁農自然護理署的職員將一個微型衛星發訊器安裝在母龜的背甲上。發訊器的重量少於母龜體重的0.4%，並會在大約一年後從龜背上自然脫落，所以並不會影響母龜的正常活動能力。

Attachment of a tiny satellite transmitter onto the carapace of a post-nesting Green Turtle by AFCD staff. The weight of the transmitter is less than 0.4% of the turtle's weight and the transmitter detaches from the turtle within a year or so, thus rendering no hindrance to its movement.



安裝了衛星發訊器的母龜在深灣被放生後，便向著大海出發。

Release of a Green Turtle tagged with a satellite transmitter at Sham Wan. The turtle immediately heads towards the ocean.

49



開始遷徙的旅程!

On her migratory journey!

衛星追蹤 Satellite Tracking

On 9 August 2002, a tiny satellite transmitter, weighing about 750g, was attached to the back of a female Green Turtle by AFCD staff at Sham Wan, Lamma Island, after she had laid her eggs. When released, the turtle immediately started her migratory journey by heading southwestward off the coastline of the South China Sea. As tracked by satellite, it took her about 10 days to arrive at Qiongzhou Gulf of Hainan Island, traveling at an average speed of 1.5 to 2 km/hr. Then, she continued to travel at a slower speed of about 0.5km/hr along the eastern coast of Hainan Island until she reached her feeding ground at the waters off Wanning City, located at the middle eastern part of Hainan Island. The destination is over 500km away from Hong Kong.

Signals from the transmitter indicated that the Green Turtle usually swims around in an area of about 5 km in the shallow waters, dives for 15 to 30 minutes to eat seagrass and seaweed and surfaces to breathe before the next dive. Sometimes it will stay underwater for as long as an hour, possibly sleeping inside rock crevices or hollows. The turtle is expected to remain in the feeding ground and may come back to nest at Sham Wan about 2 to 5 years later

Studies on the post-nesting migration of Green Turtles by satellite tracking have also been conducted in mainland China and Taiwan. These studies revealed that nesting females had more than one migratory pathway and multiple feeding grounds. Three nesting females from the Gangkou National Nature Reserve for Sea Turtle, Guangdong have been tracked by satellites. It was found that the turtles either traveled off the South China coastline or towards open waters. Their feeding grounds were found to be Hainan Island or Japan's Okinawa Island. Whereas turtles from Taiwan had a more diverse migratory pattern, their feeding grounds included Hainan Island, Ryukyu Archipelago, Taiwan and Japan.

As only a single individual has been tracked in Hong Kong, it was not possible to tell if other individuals of this population followed the same migratory pathway to arrive at Hainan Island as their resident feeding ground. Nevertheless, this study revealed that the South China coastline and Hainan Island were at least one (if not the only one) of their routes. Further studies of other individuals nesting in Hong Kong would determine whether other individuals take the same migratory pathway and utilize Hainan Island as their common feeding ground.

衛星追蹤 Satellite Tracking

在深灣產卵後的綠海龜的遷徙路線。跟據衛星的追蹤，我們發現海南島是它的覓食地。
The post-nesting migratory pathway of the Green Turtle from Sham Wan. Tracked by satellite, the turtle was found to migrate to its feeding ground off Hainan Island.



本港第一隻安裝上衛星發訊器的綠海龜。
The first Green Turtle tagged with a satellite transmitter in Hong Kong.

國際上、地區上及本地的合作

International, Regional and Local Cooperation

由於綠海龜有遷徙的特性，我們必須跟位於其產卵地、洄游路線及覓食地之間的有關機構合作，才能在保護綠海龜的工作上取得成功。另外，我們跟其它保護海龜的有關當局及機構經常保持聯繫，以資料交換、技術支援及相互合作，促使我們在保護綠海龜的工作上取得更好的成效。

位於夏威夷的美國國家海洋漁業局，屬下有一個專門以研究及保護太平洋的海龜的研究小組。研究小組曾就衛星追蹤、驗屍及其它的海龜研究和護理方法，給予我們技術的支援及訓練。我們經常就本地的海龜保護計劃跟該小組交換資料。

漁農自然護理署亦跟國內位於惠東縣的港口海龜國家級自然保護區，在保護華南的綠海龜種群上合作。合作內容包括資料交換、護理人員的培訓及科研項目等。在2001年的產卵季節，我們參與了國內有關當局的綠海龜衛星追蹤計劃。該計劃由廣東省海洋及漁業局環境監測中心、港口海龜國家級自然保護區、華南瀕危動物研究所、中國科學院南海海洋研究所及漁農自然護理署合作，成功以衛星追蹤器跟蹤了三隻母龜。資料顯示，母龜沿著某些特定的遷徙路線，在保護區產卵後洄游到中國海南島附近的雷州半島及日本沖繩島對開的海域。這些資料有助我們對華南的綠海龜在其產卵地及覓食地的保護。

綠海龜的產卵季節通常由每年的6月初開始至8月尾完結，但我們在2000年9月尾仍錄得綠海龜上岸產卵，較正常產卵季節為遲。該母龜在港島石澳大浪灣的泳灘產下一窩蛋，原因不明。由於大浪灣是公眾泳灘，遊人眾多，海龜蛋容易受到騷擾，因此不適宜讓海龜蛋留在沙灘內自然孵化。所以自然護理員便將該批蛋取走進行人工孵化。

小海龜在該年11月出生後，我們曾考慮是否適宜即時將它們放回大海。不過，當時海水的溫度比較低，並不適宜將小海龜放回大海去。因為低溫可能會令到它們的活躍度大減，反應呆滯。在這種情況下，小海龜能生存及游返它們父母位於數百以至數千公里以外的棲息地的機會十分渺茫。因此，我們便聯絡海洋公園，尋求他們的協助。海洋公園其後將小海龜放養在寬敞的水族箱中，餵以小魚、魷魚及飼料，並由獸醫照顧它們的健康。經過海洋公園十個月的悉心照顧，原來只重23克及長5厘米的小海龜長大了不少，變成平均重2.4千克、長27厘米的幼龜。在2001年10月，我們將一顆帶有獨立編號的微型晶片及一個合金標誌，分別植入及夾附在每隻小海龜的身上，然後才將它們放回大自然。這種標誌的做法非常重要，當已成長的海龜在二、三十年後游返香港產卵時，我們可以從晶片及標誌的記錄確認海龜的身份。

國際上、地區上及本地的合作 International, Regional and Local Cooperation

另一方面，海洋公園也為擱淺及受傷的海龜提供驗屍及康復的協助。從詳細的驗屍過程中，我們可以獲取海龜可能的死因及生活史等重要的資料。此外，若發現受傷的海龜，我們便會即時將海龜送去海洋公園。海龜會在海洋公園接受專業人員及獸醫的照料及醫治，待康復後便會放返大自然。

香港城市大學的生物及化學系和美國地質測量部的國家野生動物醫務所，亦協助我們將不能孵化的海龜蛋及在驗屍過程中取得的組織樣本，分別進行生態污染毒理學及病理學的化驗分析。這些化驗的結果為我們提供更多有關產卵母龜健康狀況的資料，以及擱淺海龜的死因。



一隻綠海龜在港口自然保護區給帶上衛星發訊器，以研究其遷徙路線。

A Green Turtle, with a satellite transmitter in Gangkou Nature Reserve, for tracking its migratory route.

美國國家海洋漁業局的海龜專家正為漁農自然護理署的職員，提供衛星追蹤及海龜保護的技術訓練。
Technical training of AFCD staff in satellite tracking and conservation techniques by the sea turtle experts of the U.S. National Marine Fisheries Service.

International, Regional and Local Cooperation

Green Turtles are migratory animals. Thus their conservation cannot succeed without the close cooperation of concerned parties at the nesting sites, along the migratory routes, and in the feeding areas. Also, the exchange of information, technical support and cooperative research are all needed to enhance the work of sea turtle conservation authorities and organizations.

AFCD is in contact with the Marine Turtle Research Program of the National Marine Fisheries Service (NMFS) in Hawaii, U.S., which is devoted to the research and conservation of sea turtles in the Pacific Ocean. Technical assistance and research training have been provided by the NMFS, for satellite tracking, necropsy, and other research and conservation management techniques. There are frequent information exchanges between the research program and the local Green Turtle conservation program.

AFCD has developed close working relations across the border, with the Gangkou National Nature Reserve for Sea Turtle, China. This enhances the conservation of the South China Green Turtles, by the exchange of nesting information, staff training and scientific studies. In the 2001 nesting season, AFCD joined the Green Turtle satellite tracking project initiated by the mainland's authority. The project was carried out jointly by the Environment Monitoring Center of Guangdong Ocean and Fishery Bureau, Gangkou National Nature Reserve for Sea Turtle, South China Institute of Endangered Animals, South China Sea Institute of Oceanology of the Academia Sinica, and AFCD. Three nesting females were successfully tracked with satellite transmitters. Results showed that the turtles followed certain migratory paths to arrive in the waters near Leizhou Peninsula of China (near Hainan Island) and Okinawa Island of Japan. The results gave important data for the conservation of Green Turtles in both their nesting and feeding grounds.

In late September 2000, a month later than the Green Turtle nesting season from June to August, for unknown reasons a female laid a clutch of eggs at Tai Long Wan, near Shek O on Hong Kong Island. This is a popular beach, with much human activity, and so unsuitable for the natural incubation of turtle eggs. Therefore these eggs were removed by AFCD nature wardens, and sent for artificial incubation.

國際上、地區上及本地的合作 *International, Regional and Local Cooperation*



在大浪灣發現的一窩海龜蛋。孵出後的小海龜，後來交由海洋公園暫時照顧。
This clutch of eggs was found at Tai Long Wan. The baby turtles were later taken care of in Ocean Park.

海洋公園的職員正協助將幼龜運往深灣放生。
Ocean Park staff helped to unload juvenile turtles for release at Sham Wan.



自然護理員與海洋公園的職員，一同將幼龜放回大自然。
Nature wardens and Ocean Park staff release juvenile turtles on the beach.

International, Regional and Local Cooperation

The hatchlings appeared two months later, that November. But by then the sea water temperature was too low for the baby turtles. "Cold-stunning" might well have occurred, making the baby turtles inactive - and it would have been very hard for them to survive and make their long trips to their living areas, possibly hundreds or even thousands of kilometers away. Therefore, AFCD decided to seek the assistance of Ocean Park.

Ocean Park offered to help, and the baby turtles were kept in its aquarium tanks, fed with fish fry, squid and formulated feeds, and attended by veterinarians. The baby turtles, originally about 23g and 5 cm, remained under care in the Ocean Park for 10 months. They grew into juveniles, on average weighing 2.4 kg and measuring 27 cm in carapace length. An electronic microchip, with a code for individual identification, and an alloy tag were attached to each juvenile turtle before they were released to the wild in October 2001. The tagging allows us to ascertain the identity of the juvenile turtles, when they become mature and return to nest in Hong Kong - perhaps 20 to 30 years later!

Ocean Park has also provided necropsy (autopsy) and rehabilitation support for stranded or injured Green Turtles. Necropsy of dead turtles gives us important information on the possible causes of death, and other data on the diet and life history of the Green Turtles. Injured sea turtles are put into rehabilitation at Ocean Park and cared for by professional staff and veterinarians, until they can be released to the wild.

The Department of Biology and Chemistry, at the City University of Hong Kong, and the National Wildlife Health Center of the U.S. Geological Survey have provided support in the eco-toxicological and pathological analyses for tissue samples obtained from sterile eggs or corpses. These analyses have given further information on the health status of nesting sea turtles, and the possible causes of death of stranded turtles.



國際上、地區上及本地的合作 International, Regional and Local Cooperation



漁農自然護理署的職員正為一隻在西貢發現的綠海龜屍體進行量度及拿取組織樣本作化驗用途。
AFCD staff carrying out measurements and collecting tissue samples for analysis from a dead Green Turtle, which was stranded on a beach near Sai Kung.

國際上、地區上及本地的合作
International, Regional and Local Cooperation



漁農自然護理署與海洋公園的職員正為一隻擱淺的綠海龜屍體進行解剖化驗。
AFCD and Ocean Park staff carry out necropsy of a stranded Green Turtle.

教育及市民的合作 *Education and Public Cooperation*

我們相信，要有效地保護海龜，必須得到市民的支持和合作才可獲得成功。因此，自然護理員曾到訪南丫島的村落，派發單張、貼出告示及向村民與遊人解釋保護海龜的原因及重要性。

我們曾與香港海洋環境保護協會及香港教育學院合作，讓學生及義工在海龜的產卵季節做觀察及記錄工作。另外，分屬不同學校及機構的學生及義工，都曾到深灣參與清理沙灘垃圾的活動。

我們需要大家的協助，提供有關海龜出沒或擱淺的消息。這些消息對我們去進一步了解及保護本地的海龜十分重要。近年來，我們曾收到不少由市民提供的有關海龜出沒或擱淺的報告，為我們提供了海龜在什麼地點出沒的寶貴資料。收到擱淺的報告後，我們亦可以第一時間到現場調查。

AFCD believes that it is essential to seek the support and cooperation of the public to effectively protect the sea turtles. In this connection, our nature wardens have visited the villages in Lamma Island, distributed leaflets and posted notices, explaining to the villagers and visitors the importance of protecting the sea turtles.

In addition, AFCD has had joint programs with the Hong Kong Marine Conservation Society and the Hong Kong Institute of Education, to monitor and study sea turtles during the nesting season. Students and volunteers from schools and organizations have also participated in beach cleaning activities.

To help us to protect sea turtles, you are requested to report sightings of sea turtles or the discovery of stranded turtles to the AFCD. These records are important for better understanding, and conservation, of the Hong Kong nesting Green Turtles. In recent years, we have received a number of reports of turtle sightings from the public, giving us valuable information on their occurrence and allowing us to take immediate action to investigate turtle strandings in the territory.

教育及市民的合作 Education and Public Cooperation



清潔前的深灣
The view of Sham Wan beach before cleaning.



清潔的沙灘讓綠海龜產卵。
A clean beach, ready for the Green Turtles that will come there to nest.

60



義工及學生為保護綠海龜，在深灣參與清理沙灘垃圾活動的情形。
Volunteers and students clean the beach at Sham Wan, to help protect the Green Turtles.

進一步參考 *Further Reference*

若大家想更深入認識海龜，可參看下列網址：

If you wish to learn more about sea turtles, visit the following websites:

seaturtle.org at <http://www.seaturtle.org>

Caribbean Conservation Corporation at <http://www.cccturtle.org>

查詢 *Enquiry:*

市民若對以上資料有任何查詢，可以下列方法聯絡我們：

If you have any queries on this booklet please:

- 致函九龍長沙灣道 303 號長沙灣政府合署 7 樓漁農自然護理署濕地及動物護理科；

Write to the Wetland and Fauna Conservation Division, Agriculture, Fisheries and Conservation Department, 7/F, Cheung Sha Wan Government Offices, 303 Cheung Sha Wan Road, Kowloon.

- 瀏覽我們的網址 Visit our website at - <http://www.afcd.gov.hk>
- 以電子郵件聯絡，郵址為 E-mail to - mailbox@afcd.gov.hk
- 傳真至 Fax to - 2377 4427
- 致電 Call us at - 1823

海龜出沒或擱淺的報告

Report Sightings or Strandings

市民如欲提供有關

海龜出沒或擱淺的消息，

請致電 1823，

與漁農自然護理署職員聯絡。

Please report any

sighting or stranding of sea turtles,

by calling us at 1823.

發現海龜記錄表

Sighting Record of Sea Turtles



地點 Location
日期及時間 Date and Time
數目 Number of Individuals
狀況 Condition : 1. 活生或已死亡? Alive or dead ? 2. 擱淺在沙灘上或在海面飄浮? 若已死, 屍體還新鮮或已腐爛? Stranded on beach or floating in the sea ? If dead, is the carcass fresh or decayed ? 3. 築巢或否? Nesting or not ? 4. 有產卵的爬行痕跡或否? 如有, 闊度為 _____ 厘米 / cm Nesting track present or not ? If yes, width = _____ 厘米 / cm 5. 有金屬標誌或否? 如有, 編號為 _____ Metal tag on flipper ? If yes, the code is _____ 6. 其它資料如地點描述 Others such as site description :
外表特徵 External Features: 1. 龜殼闊度 Carapace Width = _____ 厘米 / cm 2. 龜殼長度 Carapace Length = _____ 厘米 / cm 3. 龜殼 Carapace - 有角質甲片 with horny plates - 龜殼闊及橢圓形 - 綠海龜 broad, oval-shaped carapace - Green Turtle - 龜殼心形 - 太平洋麗龜 heart-shaped carapace - Olive Ridley - 龜殼上有重疊的角質甲片 - 玳瑁 horny plates overlapping - Hawksbill - 無角質甲片 without horny plates - 革質的平滑表皮 - 稜皮龜 leather-like smooth skin - Leatherback

香港的龜鱉類 *Turtles in Hong Kong*

龜類是非常特別的爬蟲類動物，它們都有一個角質的外殼。這個外殼為龜類避免受到捕獵者的捕食作出相當有效的保護。龜類在地球進化的早期已經出現，甚至比恐龍更早出現！它們在今天能成為種類繁多及成功的動物，這個防禦效能十分顯著的龜殼的功勞著實不少。

目前，全球共有約260種龜類，它們大部份都在熱帶地區生活。雖然有些品種的數量仍然很多，但是由於人類的干擾例如過度採捕、生境的破壞、污染、與外來品種的競爭等等，有更多的品種卻正在面臨絕種的威脅。因此，今天很多的龜類都被列為瀕危或受威脅的品種。

香港的海龜有四種，分別是綠海龜、玳瑁、稜皮龜及太平洋麗龜，它們都屬於全球性的瀕危品種。在另一方面，本地原生的淡水龜類例如金錢龜、平胸龜及烏龜亦是屬於瀕危或受威脅的品種。雖然現時在本地的郊區仍可找到這些淡水龜，但它們的數量已經很少，所以難得一見。諷刺的是，你在郊外最大機會碰到的龜類，竟然是來自外地的巴西龜。不用多說，若我們希望本地的原生龜種繼續成為本地生物多樣性的一環，我們就必須盡心去保護現存的龜種。

香港的所有野生龜類都受到香港法例第170章《野生動物保護條例》所保護。近年來，我們發現有人非法設置陷阱捕捉野生龜隻，尤其是極度瀕危的金錢龜。漁農自然護理署與嘉道理農場暨植物園自2000年起，便合作進行了一項全面的野生龜隻調查，以確定金錢龜的分佈、種群狀況及非法捕捉金錢龜的熱門地點。調查發現，在很多可能有野生龜隻棲身的溪流中都發現捕捉龜隻的陷阱。

為了打擊非法捕龜的活動，特區政府已加強執法行動及落實一系列保護野生龜隻的措施。漁農自然護理署的護理員已加強巡邏，以保護野生龜隻。自2001至2002年，我們共起出超過1,800個的捕龜器，並成功對數宗非法捕龜案件中的捕龜者作出檢控。此外，我們亦搜集了有關金錢龜的分佈、種群狀況及棲息環境要求的第一手基線資料，使我們更深入了解這種香港淡水龜的生態要求。

香港的龜鱉類 *Turtles in Hong Kong*

此外，金錢龜已被列入《瀕危野生動植物種國際貿易公約》(CITES)附錄II內。因此，特區政府於2002年修訂香港法例第187章《動植物(瀕危物種保護)條例》，以管制該龜種在本港的出入口及管有事宜。現時管有金錢龜需領有許可證，有關管制適用於從事金錢龜養殖的龜場、個人及買賣金錢龜的商戶。

特區政府將繼續努力打擊非法捕捉野生龜隻的活動。我們現正籌備一個野生龜隻護理計劃，當中包括人工繁殖及公眾教育在內，以求制訂長遠的措施來保護香港的野生龜隻。

在另一方面，我們近年來發現在郊區放生龜隻的情況日趨普遍。這些被放生的龜隻相信是購自寵物店或街市，它們可能是用來放生以祈求好運或是遭遺棄的寵物。由於這些放生的龜隻通常身體虛弱或已患病，所以大部份最終都會死亡，並不能在野外生存。若果它們能生存下來的話，也可能跟由外地引入的巴西龜一樣，為本地的原生動物帶來不良的生態影響。因此，請幫助保護本地的原生動物及大自然，不要將從寵物店或街市買來的龜隻放生到野外。

為協助市民對龜類有多一點認識，除了前文介紹過的綠海龜外，我們會在下面簡略介紹一些在本港水域或郊區可能見到的龜類。這些龜類有部份是本地原生種，也有來源不明或外來的品種。當你下一次到郊區遊覽遇到一隻龜時，你便能夠分辨出它究竟是本地的原生龜種，又或是外來的品種。

香港的龜鰲類 Turtles in Hong Kong

三線閉殼龜，又稱金錢龜，是極度瀕危的本地原生淡水龜，亦是「野生動物保護條例」所列明的受保護野生動物。 Three-lined Box Turtle or Golden Coin Turtle, the critically endangered freshwater turtle species native to Hong Kong, is a protected animal listed under the Wild Animals Protection Ordinance.



66



漁農自然護理署的自然護理署員在一處沼澤旁所發現的捕龜籠及捕龜陷阱。設置捕龜陷阱及捕捉野生龜隻是違法的，違例者最高可被判罰款十萬元及監禁一年。

Turtle traps and pitfall trap found near a marsh by AFCD nature wardens. Setting turtle traps and trapping turtles are illegal; offenders are subject to prosecution and face a maximum fine of \$100,000 and one year imprisonment.

香港的龜鱉類 *Turtles in Hong Kong*



Turtles are reptiles. This special group of reptiles is characterized by the presence of an outer horny shell. The shell offers the turtle a very effective protection against its predators. That would be a reason why turtles have appeared so early during the evolution of the earth (well before the dinosaurs!) but still remain as a diverse and successful group of animals in the present world.

There are about 260 species of turtles in the world, of which the majority live in tropical areas. Although some species still survive in great numbers, there are many more under threat of extinction as a result of human interference, such as over-exploitation, habitat destruction, pollution, competition with exotic species and so on. As a result, many species of turtles are listed as endangered or threatened in the present day.

In Hong Kong, four species of sea turtles, namely the Green Turtle, Hawksbill, Leatherback and Olive Ridley, are all endangered on a global scale. The native freshwater turtles are also either endangered or threatened, including the Three-lined Box Turtle (*Cuora trifasciata*), Big-headed Turtle (*Platysternon megacephalum*) and Reeves' Turtle (*Chinemys reevesii*). Although they can still be found in the countryside, these turtles are rarely seen, as they are only present in small numbers. Ironically, the most common turtle species that you would encounter in the countryside is the introduced Red-eared Slider (*Trachemys scripta elegans*). Needless to say, the remaining populations of the native turtles need our careful and dedicated protection so that they can remain as a component of the local biodiversity.

In Hong Kong, all species of wild turtles are protected under the Wild Animals Protection Ordinance Cap. 170. In recent years, there have been observations of illegal trapping of wild turtles within the territory, in particular concerning the critically endangered Three-lined Box Turtle. AFCD has worked with the Kadoorie Farm and Botanic Garden (KFBG) since 2000 to carry out a comprehensive study of the trapping hot spots of wild turtles, and to determine the distribution and population status of Three-lined Box Turtle. The study has found turtle traps in many streams, which are likely habitats for wild turtles.

In order to stop the spread of illegal trapping, the government has recently implemented a series of measures to protect the native wild turtles. In particular, patrols by wardens of the



香港的龜鱉類 Turtles in Hong Kong

AFCD have been strengthened. From 2001 to 2002, over 1,800 turtle traps were seized and resulted in a number of successful prosecutions against illegal turtle trappers. Also, the baseline information on the distribution, population status and habitat requirements of the Three-lined Box Turtle collected during the study has provided first-hand information for a better understanding of the ecological requirements of this freshwater turtle in Hong Kong.

The Three-lined Box Turtle was recently listed in Appendix II of CITES and to this effect, the Animals and Plants (Protection of Endangered Species) Ordinance Cap. 187 was amended in 2002 to control the import, export and possession of the turtle locally. A license is now required for the possession of Three-lined Box Turtles and the AFCD maintains a record of all turtles of this species kept by private turtle farms, individuals and traders, to enforce proper control.

The government will continue with its efforts to act against illegal trapping of native wild turtles. A conservation plan including captive breeding and public education is also being developed for the long-term protection of wild turtles in Hong Kong.

On the other hand, it has been found that there are more and more deliberately released turtles in the countryside. These turtles are believed to be bought from pet shops or food markets, and they were probably released as abandoned pets or in the hope of bringing good luck. Most of these released turtles will very likely die, either because they are already weak/sick or they just are not equipped to survive in the wild. If they do survive, they might bring about adverse ecological impact on the native fauna, as was the case of the introduced Red-eared Slider. Therefore, it is imperative that pet/market turtles are not released in the wild, for the sake of protecting our native turtle fauna and nature in general.

To help the public learn more about turtles, the following account gives a brief overview of the turtle species (except in the case of the Green Turtle, which has been described in previous chapters) that you would encounter in the local waters or countryside of Hong Kong. Some are native whereas others are either of uncertain status or are exotic. So, next time when you visit the countryside and encounter a turtle, you would be able to tell whether it is a native or an exotic species.

香港的龜鱉類 Turtles in Hong Kong

本港的原生淡水龜需要我們的關注及幫助，以避免受到本地絕種的威脅。

The native freshwater turtles look to us for our concern and help against the threat of extinction.



海龜 SEA TURTLES



稜皮龜
Leatherback

Johan Chevalier

爬行綱·龜鱉目·稜皮龜科

稜皮龜

俗名

- 稜皮龜

特徵

- 世界上最大的龜類，體長可達 2.5 米。
- 頭部很大，強而有力的上下顎幫助咀嚼水母。
- 身體由革質的皮而不是龜殼所包裹。深棕色至黑色，有斑點。
- 四肢成槳狀的鱗狀肢，無爪。
- 前鱗狀肢十分發達有力。
- 背部有 6 條明顯縱稜。

食物及習性

- 雜食。主要以水母為食，也吃小魚、魷魚、甲殼類、軟體類及海藻。
- 雌龜大部份時間生活在大海當中，只有在繁殖季節才走上岸邊的沙灘產卵。雄龜則自孵化後就一直在海洋中生活，不會再返回陸地。
- 游泳健將及潛水高手，能潛至 1000 米的深海中。
- 由於擁有保溫的脂肪及能夠在某程度上自我調節體溫，因此可以在低至 5°C 的冰冷水域生存。

Reptilia-Testudines-Dermochelyidae

Dermochelys coriacea

COMMON NAME

- Leatherback

CHARACTERISTICS

- The largest turtle, with body length up to 2.5m.
- Big head with powerful jaws to chew jellyfish.
- Body covered with leathery skin rather than a shell. Dark brown or black in colour and spotted.
- Four limbs modified into flippers, without claws.
- Very well-developed and powerful front flippers.
- Back has 6 distinct keels.

DIET AND HABITS

- Omnivorous. It eats primarily jellyfish but its diet also includes small fish, squid, crustaceans, mollusks and seaweed.
- Female spends most of the time in marine habitat. Only comes ashore to lay eggs during breeding season. Male, once entering the sea after hatching, remains in the ocean and will not return to land.
- A very fast swimmer and deep diver, descending as far as 1000m.
- Can survive in cold waters as low as 5°C because of its insulating fat and its ability to regulate body temperature to a certain extent.



繁殖

- 擁有令人驚歎的遷徙能力，能夠由地球的一半遷徙到另一半。
- 成熟年齡不詳。在產卵沙灘對開的淺水交配。
- 晚上在沙灘產卵，在繁殖季節可產4-10窩蛋，每次產下一窩大約150枚的海龜蛋。
- 產下的蛋有兩種，一種是個體比較大的受精卵，另一種是比較小的不育卵。孵化期在30°C下約60日。
- 幼龜約8厘米長。

生境

- 遠洋性的海域。
- 在熱帶地區的沙灘產卵。

分佈

- 間中在本地東南面的水域出現。
- 廣泛分佈於全球大部份的海洋，包括中國的南海及東海。

存護狀況

- 可被列為本地原生種。雖然不在本地繁殖，但本港的水域位於稜皮龜的分佈範圍，並有可能是位於稜皮龜的遷徙路線上。
- 野生動物保護條例：〈受保護野生動物〉
- 中國瀕危動物紅皮書：〈極危〉，為“國家II級重點保護野生動物”
- IUCN 紅皮書(2000)：〈極危〉
- CITES：附表I

備註

- 在本港水域有多次發現活生稜皮龜或稜皮龜屍體的記錄。發現活生稜皮龜的地點包括長洲的一個沙灘（1951年）及南丫島附近（1963及1964年），而稜皮龜的屍體亦曾在西灣（1988年）、東龍洲（1994年）及蒲苔島（2000及2003年）附近被發現。

BREEDING

- Great migratory ability. Can travel from one hemisphere to another.
- Reproductive age unknown. Mating takes place in shallow waters near the nesting beach.
- Egg laying during nighttime on sandy beach. May lay 4-10 clutches and each clutch has about 150 eggs.
- Lays two kinds of eggs, the larger fertile eggs and the smaller sterile eggs. Incubation period ~60 days at 30°C.
- Baby turtles about 8cm.

HABITAT

- Pelagic sea.
- Nests in tropical beaches.

DISTRIBUTION

- Occasionally seen in southeastern part of local waters.
- Widespread worldwide. Found in most of the world's oceans including South and East China Sea.

CONSERVATION STATUS

- Considered native. Non-breeding but the waters of Hong Kong lie within the range of the species, possibly on the migratory route.
- Wild Animals Protection Ordinance: <Protected Wild Animal>
- China Red Data Book: <Critically Endangered>, listed as a "Class II State Key Protected Animal"
- IUCN Red List 2000: <Critically Endangered>
- CITES: Appendix I

REMARKS

- There have been several sightings of both live and dead Leatherbacks in local waters. This turtle has been found live on a beach in Cheung Chau (1951) and near Lamma Island (1963, 1964). Dead specimens were found near Sai Wan (1988), Tung Lung Chau (1994) and Po Toi (2000, 2003).

海龜 SEA TURTLES



產卵中的玳瑁
Nesting Hawksbill

Johan Chevalier



玳瑁標本
Hawksbill Specimen

72

爬行綱·龜鱉目·海龜科

玳瑁

俗名

- 玳瑁

特徵

- 背甲約長 95 厘米，長形、棕褐色、滿佈斑紋。
- 背甲的盾片呈重疊的覆瓦狀排列。
- 四肢成槳狀的鰭狀肢，每肢有兩爪。
- 因上顎擁有類似鷹嘴狀的喙，所以稱為 "Hawksbill" 即 "鷹嘴" 之意。

食物及習性

- 雜食。主要以海藻、軟體類、甲殼類及珊瑚為食。
- 雌龜大部份時間生活在大海當中，只有在繁殖季節才走上岸邊的沙灘產卵。雄龜則自孵化後就一直在海洋中生活，不會再返回陸地。

繁殖

- 成熟年齡不詳。在產卵沙灘對開的淺水交配。
- 晚上在沙灘產卵，在繁殖季節可產 3-4 窩蛋，每次產下一窩大約 50 至 200 枚的海龜蛋。產卵時並不怕光。
- 卵細小。孵化期在 30°C 下約 60 日。
- 幼龜約 3 厘米長。

Reptilia-Testudines-Cheloniidae

Eretmochelys imbricata

COMMON NAME

- Hawksbill

CHARACTERISTICS

- Carapace – 95cm, elongated, brownish red and streaked.
- Overlapping scales on carapace.
- Four limbs modified into flippers, with two claws on each flipper.
- Hooked beak on upper jaw which resembles a hawk's, hence its name Hawksbill.

DIET AND HABITS

- Omnivorous. Diet includes seaweed, mollusks, crustaceans and coral.
- Female spends most of the time in marine habitat. Only comes ashore to lay eggs during breeding season. Male, once entering the sea after hatching, remains in the ocean and will not return to land.

BREEDING

- Reproductive age unknown. Mating takes place in shallow waters near the nesting beach.
- Egg laying during nighttime on sandy beach. May lay 3-4 clutches and each clutch has about 50 to 200 eggs. Not afraid of light during nesting.
- Eggs small. Incubation period ~60 days at 30°C.
- Hatchlings about 3 cm.



生境

- 在岩岸或珊瑚礁附近的淺水區覓食。
- 在熱帶及亞熱帶地區的沙灘產卵。

分佈

- 間中在本港東南面的水域出現。
- 廣泛分佈於大部份的熱帶海洋，特別是印度洋。
- 在中國，由山東省到北部灣都可以發現玳瑁的蹤跡。

存護狀況

- 可能是本地原生種。雖然不在本地繁殖，但本港的水域位於玳瑁的分佈範圍，並有可能是位於玳瑁的遷徙路線上。
- 野生動物保護條例：〈受保護野生動物〉
- 中國瀕危動物紅皮書：〈極危〉，為“國家Ⅱ級重點保護野生動物”
- IUCN 紅皮書(2000)：〈極危〉
- CITES：附表 I

備註

- 在本港水域有多次發現玳瑁的記錄。1998年在南丫島及西貢附近分別發現一隻活生的玳瑁。另外，有4隻活生的玳瑁曾在1988（兩隻）、1990及1993年被發現，可是被發現的位置並不清楚。在2001年，一隻死去不久的玳瑁屍體亦曾在西貢伙頭墳洲附近被發現。
- 由於所發現的玳瑁記錄中有活生的個體，玳瑁很可能是本港水域的原生種。雖然活生或死去的個體也可能是放生的，但相信可能性不大。如果是佛教的放生儀式，通常都會在海龜的身上附上標記或文字，請求其他人不要傷害它。但是，現時所發現的個體都沒有這些標記，所以它們可能是在遷徙時途經本港水域的個體。
- 由於以玳瑁美麗背甲製造紀念品（例如玳瑁眼鏡、手鐲）的大量需求，玳瑁曾被大量捕獵至令其差不多絕種。現時玳瑁產品的貿易受到禁制，玳瑁的生存情況才有所改善。

HABITAT

- Feeding grounds in rocky coastlines or coral reefs of shallow marine waters.
- Nests in tropical and subtropical beaches.

DISTRIBUTION

- Occasionally seen in southeastern part of local waters.
- Widely distributed over most tropical areas, in particular the Indian Ocean.
- Occurs from Shandong Province to Beibu Gulf in China.

CONSERVATION STATUS

- Probably native. Non-breeding but the waters of Hong Kong lie within the range of the species, possibly on the migratory route.
- Wild Animals Protection Ordinance: <Protected Wild Animal>
- China Red Data Book: <Critically Endangered>, listed as a "Class II State Key Protected Animal"
- IUCN Red List 2000: <Critically Endangered>
- CITES: Appendix I

REMARKS

- There have been several sightings of both live and dead Hawksbill in local waters. The turtle has been found live near Lamma Island and Sai Kung in 1998. There were also four other records of live Hawksbills with two in 1988, one in 1990 and one in 1993 but exact locations of the sightings were not known. A freshly dead specimen was recently found near Town Island, Sai Kung in 2001.
- As there are live sightings of Hawksbills, it is probable that the Hawksbill is native to local waters. It seems unlikely the live/dead Hawksbill specimens are released ones since sea turtles, if released during Buddhist's release ceremonies, usually bear a tag/mark indicating they are released animals and should not be harmed. However, all sightings have not shown such tag/marks. Therefore, it is likely that these sightings represent migratory Hawksbills in local waters.
- Because of the high demand for its beautiful shell, for making tourist items such as glasses and bracelets, the Hawksbill was hunted to near extinction. The situation has now improved, due to a ban on the trade of Hawksbill products.

海龜 SEA TURTLES



產卵中的太平洋麗龜
Nesting Olive Ridley

George H. Balazs



幼龜
Juvenile

George H. Balazs

74

爬行綱 - 龜鱉目 - 海龜科 太平洋麗龜

俗名

- 麗龜

特徵

- 體型細小的海龜。背甲約長75厘米、橄欖綠色、呈心型。
- 四肢成槳狀的鰭狀肢，每肢有一爪。
- 眼睛細小。

食物及習性

- 雜食。喜吃魚但亦以軟體類、甲殼類、水母及海藻為食。
- 雌龜大部份時間生活在大海當中，只有在繁殖季節才走上岸邊的沙灘產卵。雄龜則自孵化後就在海洋中生活，不會再返回陸地。

Reptilia-Testudines-Cheloniidae

Lepidochelys olivacea

COMMON NAME

- Olive Ridley, Pacific Ridley

CHARACTERISTICS

- Small sea turtle with carapace ~ 75cm, olive green and heart-shaped.
- Four limbs modified into flippers, with a single claw on each flipper.
- Small eyes.

DIET AND HABITS

- Omnivorous. Prefers fish but diet also includes mollusks, crustaceans, jellyfish and seaweed.
- Female spends most of the time in marine habitat. Only come ashore to lay eggs during breeding season. Male, once entering the sea after hatching, remains in the ocean and will not return to land.



繁殖

- 成熟年齡約 7 至 9 歲。跟其它的海龜不同，在大海而不是在產卵沙灘對開的淺水交配。
- 在哥斯達黎加、墨西哥及印度有大群的太平洋麗龜集體上岸產卵。其它產卵地分佈在熱帶及亞熱帶的沙灘。
- 白天在沙灘產卵，在繁殖季節可產 1-3 窩蛋，每次產下一窩大約 30 至 170 枚的海龜蛋。
- 卵細小。孵化期在 30°C 下約 60 日。
- 幼龜約 4 至 5 厘米長。

生境

- 在深海或淺水區覓食。
- 產卵的沙灘離覓食地數百至數千公里。

分佈

- 間中在本地東面及南面的水域出現。
- 在中國的南海及東海、印度洋、大西洋及太平洋都有分佈。

存護狀況

- 可被列為本地原生種。
- 雖然不在本地繁殖，但本港的水域位於太平洋麗龜的分佈範圍，並有可能是位於太平洋麗龜的遷徙路線上。
- 野生動物保護條例：〈受保護野生動物〉
- 中國瀕危動物紅皮書：〈極危〉，為“國家II級重點保護野生動物”
- IUCN 紅皮書(2000)：〈瀕危〉
- CITES：附表 I

備註

- 在本港水域有多次發現太平洋麗龜的記錄。1978年在筲箕灣發現活生的太平洋麗龜，而在1996年更於多處發現太平洋麗龜的屍體，當中包括淺水灣、石澳、大嶼山的大浪灣及南丫島。在1973年於昂船洲亦發現一隻太平洋麗龜的屍體。

BREEDING

- Sexual maturity may be around 7-9 years. Unlike other sea turtles, mating takes place in high seas rather than just opposite the nesting beach.
- Mass nesting in Costa Rica, Mexico and India. Other nesting beaches distributed widely in the tropics and subtropics.
- Egg laying during daytime on sandy beach. May lay 1-3 clutches and each clutch has about 30 to 170 eggs.
- Eggs small. Incubation period ~60 days at 30°C.
- Hatchlings about 4-5cm.

HABITAT

- Feeding grounds in both deep and shallow marine waters.
- Nesting beaches located hundreds to thousands of kilometers away from the feeding ground.

DISTRIBUTION

- Occasionally seen in southern and eastern part of local waters.
- Occurs in South and East China Sea, Indian Ocean, Atlantic Ocean and Pacific Ocean.

CONSERVATION STATUS

- Considered native.
- Non-breeding but the waters of Hong Kong are within the range of the species, possibly on the migratory route.
- Wild Animals Protection Ordinance: <Protected Wild Animal>
- China Red Data Book: <Critically Endangered>, listed as a "Class II State Key Protected Animal"
- IUCN Red List 2000: <Endangered>
- CITES: Appendix I

REMARKS

- There have been several sightings of both live and dead Olive Ridley in the local waters. It has been found live at Shau Kei Wan in 1978. In 1996, there were several sightings of dead Olive Ridley at Repulse Bay, Shek O, Tai Long Wan of Lantau Island and Lamma Island. A dead Olive Ridley was also found near Stonecutters Island in 1973.

淡水龜 FRESHWATER TURTLES



烏龜
Reeves' Turtle

爬行綱-龜鱉目-龜科 烏龜

俗名

- 草龜、泥龜

特徵

- 頭頸帶有黃色條紋及斑塊。
- 背甲~20厘米、有3條縱稜、黑褐色。
- 腹甲棕黃色、每塊盾片均有黑色斑塊。
- 趾間有蹼。
- 雄性較黑及有異臭。

食物及習性

- 雜食(魚、蛙、腐肉、水果、水草)。
- 晝/夜行性。
- 半水生。
- 喜在石塊或木頭上曬日光浴。
- 生長緩慢。

Reptilia-Testudines-Emydidae

Chinemys reevesii

COMMON NAME

- Reeves' Turtle; Chinese Three-keeled Pond Turtle

CHARACTERISTICS

- Head & neck with yellow stripes/blotches.
- Carapace ~ 20cm, with three longitudinal keels, dark brown.
- Plastron yellowish-grey, dark blotch on each scute.
- Digits webbed.
- Male darker & has unpleasant odour.

DIET AND HABITS

- Omnivorous (fish, frog, carrion, fruit, pond weed).
- Diurnal/nocturnal.
- Semi-aquatic.
- Likes to bask on rocks/logs.
- Slow growth rate.



繁殖

- 約6至10歲左右達性成熟期。
- 春季交配。
- 夏季產卵。
- 每個繁殖季節產卵3至4窩，每次在軟泥內產卵4至7枚。
- 孵化期在30°C下約60日。
- 溫度對幼龜的性別有決定性的影響，溫度低於25°C則會孵出雄性，溫度高於28°C會孵出雌性。
- 幼龜背甲約2厘米。

生境

- 低地。
- 水塘、池塘、水流緩慢的溪流及沼澤。

分佈

- 廣泛分佈於本港各地。曾經是常見的龜種，但近年來已非常罕見。
- 見於大部份本地的水塘。
- 分佈於國內、日本及韓國。

存護狀況

- 本地原生種。
- 本地種群數目可能因生境破壞及與巴西龜競爭而似乎正在下降。
- 野生動物保護條例：〈受保護野生動物〉
- 中國瀕危動物紅皮書：〈依賴保護〉
- IUCN紅皮書(2000)：〈瀕危〉

備註

- 曾經是本地街市最常見的食用龜類，現時已被數量更多及來自東南亞的龜種，例如亞洲閉殼龜，甚至是北美洲產的巴西龜所代替。
- 在國內，已有大規模的烏龜人工養殖場。
- 幼龜常見在寵物店出售。

BREEDING

- Sexual maturity at around 6-10 years.
- Mating in spring.
- Egg laying in summer.
- About 3-4 clutches in each breeding season and 4-7 eggs per clutch laid in soft earth.
- Incubation period ~60 days at 30°C.
- Sex of hatchlings determined by incubation temperature. Eggs incubated below 25°C become male. Temperature above 28°C produces female.
- Hatchling's carapace ~2cm.

HABITAT

- Lowland.
- Reservoirs, ponds, slow-flowing streams, marshes.

DISTRIBUTION

- Widespread in the territory. Used to be a common species but sightings have been rare in recent years
- Found in most local reservoirs.
- Occurs in China, Japan & Korea.

CONSERVATION STATUS

- Native to Hong Kong.
- Local population seems to be declining as a result of habitat destruction and competition with Red-eared Slider.
- Wild Animals Protection Ordinance: <Protected Wild Animal>
- China Red Data Book: <Conservation Dependent>
- IUCN Red List 2000: <Endangered>

REMARKS

- Was a common food species in local markets but replaced by other more common turtle species from South-east Asia such as the Asian box turtles or even North American species like the Red-eared Slider.
- Large-scale captive farming of this species can be found in mainland China.
- Baby turtles commonly available in pet shops.

淡水龜 FRESHWATER TURTLES



鱷龜

Common Snapping Turtle

78

爬行綱·龜鱉目·鱷龜科

鱷龜

Reptilia-Testudines-Chelydridae

Chelydra serpentina

俗名

- 鱷龜

特徵

- 擁有奇特及原始的外貌。
- 頭大及擁有強而有力的上下顎。
- 背甲~45厘米、有3條黑褐色縱稜。盾片粗糙、後緣尖而突。
- 腹甲細小、呈黃色。
- 皮膚表面佈滿疣粒及鱗片。
- 強而有力的四肢佈滿鱗片、趾間有蹼。
- 尾部有三排鱗片。中間一排十分明顯，似鱷魚的尾巴。

食物及習性

- 雜食。食量大，差不多任何東西如魚、植物、腐肉甚至乎雀鳥及其它小龜也包括在內。
- 夜行性。饑餓的鱷龜也會在白天覓食。
- 水生。
- 性情兇猛。
- 游泳健將，但更常在一隱閉地方靜候獵物到來。

COMMON NAME

- Common Snapping Turtle

CHARACTERISTICS

- Has a distinct primitive monster look.
- Head large with strong jaws.
- Carapace ~45cm, dark brown with three ridges. Scutes rough, pointed at rear end.
- Small reduced plastron yellow in colour.
- Skin covered with tubercles and scales.
- Strong and heavily scaled limbs and digits webbed.
- Tail with three rows of scales. The central row is very pronounced, like a crocodile's tail.

DIET AND HABITS

- Omnivorous. A voracious turtle which eats almost anything including fish, plant matter, carrion and even birds or other small turtles.
- Nocturnal. Hungry individuals may also feed in daytime.
- Aquatic.
- A highly aggressive species.
- Good swimmer but likes to wait and hunt for its prey from a chosen, well-camouflaged place.



繁殖

- 春/夏季交配。
- 夏季產卵。
- 每個繁殖季節產卵2至3窩，每次在泥內產卵10至50枚。
- 在野外，幼龜約80至90日便會孵出。

生境

- 池塘、水流緩慢的河流及沼澤。

分佈

- 被放生的鱷龜曾在本港的數個水塘被發現。
- 原產於北美洲。

存護狀況

- 外來品種。

備註

- 幼龜間中在寵物店出售。
- 在國內，已有人工養殖場養殖鱷龜作肉食用途。

BREEDING

- Mating in spring/summer.
- Egg laying in summer.
- About 2-3 clutches in each breeding season and 10-50 eggs per clutch laid in soil.
- Hatchlings emerge after 80-90 days in the wild.

HABITAT

- Ponds, slow-flowing rivers and marshes.

DISTRIBUTION

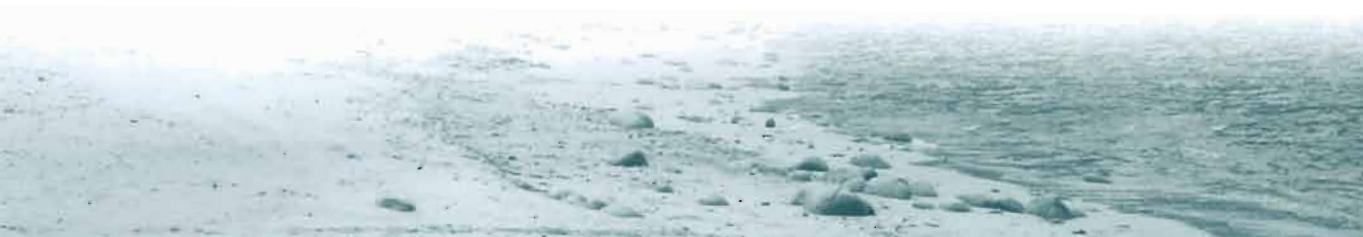
- Live released individuals found in several reservoirs in the territory.
- Originated in North America.

CONSERVATION STATUS

- Exotic.

REMARKS

- Hatchlings sometimes available in pet shops.
- Captive farming in China for its meat.



淡水龜 FRESHWATER TURTLES



火神龜
Painted Turtles

爬行綱-龜鱉目-龜科

火神龜

俗名

- 火焰龜、錦龜、油彩龜

特徵

- 背甲~25厘米、橄欖綠色、有黃色或紅色的甲邊及條紋。殼扁平而光滑。
- 腹甲呈黃色。
- 頸部有黃或紅的條紋。頭部有黃色的條紋。
- 趾間有蹼。
- 外貌似巴西龜，但沒有巴西龜眼後的明顯紅斑。

食物及習性

- 雜食，食量大。喜吃肉類及植物。
- 晝行性。喜愛在塘邊及木頭上曬日光浴，通常很多隻龜會走在一起。
- 水生。
- 不怕人及活躍。生長速度快。

Reptilia-Testudines-Emydidae

Chrysemys picta

COMMON NAME

- Painted Turtle

CHARACTERISTICS

- Carapace ~ 25cm, olive green with yellow/red seams and stripes. Flattened, smooth and shiny.
- Plastron yellow.
- Yellow/red stripes on neck. Head with yellow stripes.
- Digits webbed.
- Looks like a Red-eared Slider but lacks the characteristic red blotches behind the eyes.

DIET AND HABITS

- Omnivorous and voracious. Diet includes both animals and plants.
- Diurnal. Fond of basking on pond bank or logs, usually many individuals staying together.
- Aquatic.
- Bold and active. Fast growing.



繁殖

- 春/夏季交配。
- 夏季產卵。
- 每次產卵可多至 20 枚。
- 孵化溫度高於 30.5°C 會孵出雌龜，而低於 25°C 會孵出雄龜。

生境

- 池塘、沼澤及其它水流緩慢的地方。

分佈

- 有小量火神龜在新界的的水塘及魚塘被發現。
- 來源地為北美洲。

存護狀況

- 外來品種。
- 蓄意在野外放生。現時沒有跡象顯示火神龜能在本地繁殖。

備註

- 有火神龜的幼龜在寵物店出售。

BREEDING

- Mating in spring/summer.
- Egg laying in summer.
- Lay up to 20 eggs per clutch.
- Incubation at temperature above 30.5°C produces females but eggs incubated at below 25°C produces males.

HABITAT

- Ponds, marshes and other slow-flowing waters.

DISTRIBUTION

- A few individuals found in reservoirs and fish ponds in the New Territories.
- Originated in North America.

CONSERVATION STATUS

- Exotic.
- Intentionally released to the wild. No signs of the establishment of wild populations locally.

REMARKS

- Hatchlings available in pet shops.



淡水龜 FRESHWATER TURTLES



閉上龜殼的馬來閉殼龜
Malayan Box Turtle (with shell closed)



馬來閉殼龜
Malayan Box Turtle

82

爬行綱-龜鱉目-龜科 馬來閉殼龜

俗名

- 馬來閉殼龜

特徵

- 腹甲分為活動的前後兩葉，有韌帶相連，當腹甲向背甲合埋時，整個甲殼能夠完全閉合。
- 由頭到頸每邊均有3條鮮黃色縱紋。
- 背甲~20厘米、深橄欖色。腹甲呈黃色，每塊腹甲盾片有一棕啡色斑。
- 趾間有蹼。

食物及習性

- 雜食。喜吃植物，亦吃魚及昆蟲。
- 晝行性。
- 主要是水生。
- 體小，並不好動。
- 在炎熱的日子，喜歡隱藏在陽光照射不到的地方。

Reptilia-Testudines-Emydidae

Cuora amboinensis

COMMON NAME

- Malayan Box Turtle

CHARACTERISTICS

- Plastron separated into two movable halves and linked by a central hinge. The shell can be closed completely when the plastron is pressed against the carapace.
- With three bright yellow stripes running along each side from head to neck.
- Carapace ~ 20cm, dark olive in colour. Plastron yellow with brown patch on each scute.
- Digits webbed.

DIET AND HABITS

- Omnivorous. Prefers vegetables, also eats fish and insects.
- Diurnal.
- Primarily aquatic.
- Timid, not a very active species.
- Likes to hide from the sun during hot days.





繁殖

- 春季交配。
- 夏季產卵。
- 每個繁殖季節產卵1至3窩，每次在濕潤的泥內產卵1至4枚。

生境

- 池塘、沼澤及水流緩慢的河流。

分佈

- 被放生的馬來閉殼龜曾在新界數處被發現。
- 原產於東南亞。

存護狀況

- 外來品種。
- IUCN 紅皮書(2000): <易危>
- CITES: 附表 II

備註

- 在本地街市有大量的馬來閉殼龜作肉食龜出售。間中也在寵物店出售。
- 蓄意在野外放生。現時沒有跡象顯示馬來閉殼龜能在本地繁殖。

BREEDING

- Mating in spring.
- Egg laying in summer.
- About 1-3 clutches in each breeding season and 1-4 eggs per clutch laid in moist soil.

HABITAT

- Ponds, marshes and slow-flowing stream.

DISTRIBUTION

- Released individuals found in some parts of the New Territories.
- Occurs in South-east Asia.

CONSERVATION STATUS

- Exotic.
- IUCN Red List 2000: <Vulnerable>
- CITES: Appendix II

REMARKS

- Large numbers of this turtle are sold as food in local markets. Sometimes also available in pet shops.
- Intentionally released to the wild. No signs of the establishment of wild populations locally.

淡水龜 FRESHWATER TURTLES



黃緣閉殼龜
Yellow-lined Box Turtle

84

爬行綱-龜鱉目-龜科
黃緣閉殼龜

Reptilia-Testudines-Emydidae
Cuora flavomarginata

俗名

- 黃緣閉殼龜

COMMON NAME

- Yellow-lined Box Turtle

特徵

- 腹甲分為活動的前後兩葉，有韌帶相連，當腹甲向背甲合理時，整個甲殼能夠完全閉合。
- 由頭到頸每邊均有一條鮮黃色縱紋。眼後有一黃斑。
- 背甲~16厘米、棕啡色、隆起、有一條鮮黃色脊稜。
- 腹甲呈深啡色、盾片邊緣黃色。
- 趾間有蹼。

CHARACTERISTICS

- Plastron separated into two movable halves and linked by a central hinge. The shell can be closed completely when the plastron is pressed against the carapace.
- With a yellow stripe running along each side from head to neck. Yellow patch behind the eye.
- Carapace ~ 16cm, reddish brown, highly arched, with a distinct yellow central keel.
- Plastron dark brown with yellow margin.
- Digits webbed.

食物及習性

- 雜食。喜吃昆蟲、蚯蚓、植物，甚至小蛇。
- 晝/夜行性。
- 半水生。
- 性情純良。
- 數隻黃緣閉殼龜有時喜歡隱藏在同一個洞穴中。

DIET AND HABITS

- Omnivorous. Feeds on insects, earthworms, plant matter, and even small snakes.
- Diurnal/nocturnal. Also active during rainy days.
- Semi-aquatic.
- A gentle species.
- Sometimes, several individuals may hide inside the same hole.

繁殖

- 春/夏季交配。
- 夏季產卵。
- 每個繁殖季節產卵2至4窩，每次在濕潤的泥內產卵2至4枚。

生境

- 森林，通常靠近溪流或湖泊。

分佈

- 被放生的黃綠閉殼龜曾在新界及大嶼山數處被發現。
- 產於國內的中部及南部，日本也有分佈。

存種狀況

- 外來品種。
- 中國瀕危動物紅皮書：〈瀕危〉
- IUCN紅皮書(2000): 〈瀕危〉
- CITES: 附表 II

備註

- 在寵物店出售的黃綠閉殼龜大部份是人工繁殖的幼龜。
- 蓄意在野外放生。現時沒有跡象顯示黃綠閉殼龜能在本地繁殖。

BREEDING

- Mating in spring/summer.
- Egg laying in summer.
- About 2-4 clutches in each breeding season and 2-4 eggs per clutch laid in moist soil.

HABITAT

- Forest, usually near streams or lakes.

DISTRIBUTION

- Released individuals found in some parts of the New Territories and Lantau Island
- Occurs in central and southern China. Also found in Japan.

CONSERVATION STATUS

- Exotic.
- China Red Data Book: <Endangered>
- IUCN Red List 2000: <Endangered>
- CITES: Appendix II

REMARKS

- Available in pet shops, mostly captive-bred hatchlings.
- Intentionally released to the wild. No signs of the establishment of wild populations locally.

淡水龜 FRESHWATER TURTLES



黃額閉殼龜
Indo-Chinese Box Turtle

爬行綱-龜鱉目-龜科

黃額閉殼龜

俗名

- 黃額盒龜、梅花盒龜、海南閉殼龜

特徵

- 腹甲分為活動的前後兩葉，有韌帶相連，當腹甲向背甲合理時，整個甲殼能夠完全閉合。
- 頭部黃色、有斑點。喉部黃色。
- 背甲~20厘米、隆起、背甲有三種顏色：頂部啡色、兩側黃色、底部黃啡色。
- 腹甲呈深啡色、盾片邊緣黃色。
- 趾間有蹼。

食物及習性

- 雜食。喜吃昆蟲、蚯蚓、魚及植物。
- 晝/夜行性。
- 半水生，但較為陸棲性。
- 性情害羞。

Reptilia-Testudines-Emydidae

Cuora galbinifrons

COMMON NAME

- Indo-Chinese Box Turtle

CHARACTERISTICS

- Plastron separated into two movable halves and linked by a central hinge. The shell can be closed completely when the plastron is pressed against the carapace.
- Head yellow, spotted. Throat also yellow in colour.
- Carapace ~ 20cm, high domed. Carapace of 3 different colours top - brown, sides - yellow, bottom - yellowish brown.
- Plastron dark brown with yellow margin.
- Digits webbed.

DIET AND HABITS

- Omnivorous. Feeds on insects, earthworms, fish and plant matter.
- Diurnal/nocturnal.
- Semi-aquatic, more terrestrial in nature.
- A timid species.

繁殖

- 有關黃額閉殼龜的繁殖習性不詳。夏季產卵。

生境

- 森林，通常靠近溪流或湖泊。

分佈

- 被放生的黃額閉殼龜曾在新界數處被發現。
- 產於國內的廣西及海南島，越南也有分佈。

存護狀況

- 外來品種。
- 中國瀕危動物紅皮書：〈瀕危〉
- IUCN 紅皮書(2000): 〈極危〉
- CITES: 附表 II

備註

- 有小量人工繁殖的黃額閉殼龜在寵物店出售。成龜則間中在街市出售作肉食。
- 蓄意在野外放生。現時沒有跡象顯示黃額閉殼龜能在本地繁殖。

BREEDING

- Little is known about breeding habit. Egg laying in summer

HABITAT

- Forest, usually near streams or lakes.

DISTRIBUTION

- Released individuals found in some parts of the New Territories.
- Occurs in Guangxi and Hainan, China. Also found in Vietnam.

CONSERVATION STATUS

- Exotic.
- China Red Data Book: <Endangered>
- IUCN Red List 2000: <Critically Endangered>
- CITES: Appendix II

REMARKS

- Captive-bred hatchlings sometimes available in pet shops in small quantities. Large adults occasionally sold for food in local markets.
- Intentionally released to the wild. No signs of the establishment of wild populations locally.

淡水龜 FRESHWATER TURTLES



幼龜
Hatchlings



三線閉殼龜
Three-lined Box Turtle

88

爬行綱-龜鱉目-龜科
三線閉殼龜

Reptilia-Testudines-Emydidae
Cuora trifasciata

俗名

- 金錢龜

特徵

- 腹甲分為活動的前後兩葉，有韌帶相連，當腹甲向背甲合埋時，整個甲殼能夠完全閉合。
- 頭頂鮮黃色。
- 背甲~25厘米、棕啡色、有3條清晰的黑色縱稜。
- 腹甲呈黑色、邊緣橙紅色。
- 四肢粉紅色及啡色。頸部淺橙紅色。
- 色彩鮮艷及外表吸引的龜種。
- 趾間有蹼。

食物及習性

- 雜食。喜吃魚、甲殼類及昆蟲，也吃水生植物及其它的植物性食物。
- 晝/夜行性。
- 主要是水生。
- 性情純良、體小。
- 數隻金錢龜有時喜歡隱藏在同一個洞穴中休息。

COMMON NAME

- Three-lined Box Turtle, Golden Coin Turtle

CHARACTERISTICS

- Plastron separated into two movable halves and linked by a central hinge. The shell can be closed completely when the plastron is pressed against the carapace.
- Upper surface of head bright yellow.
- Carapace up to 25cm, reddish brown with three distinct and black keels.
- Plastron black with pinkish orange margin.
- Limbs pink and brown in colour. Neck light orange red.
- A very colourful and beautiful species.
- Digits webbed.

DIET AND HABITS

- Omnivorous. Prefers fish, crustaceans and insects. Also feeds on aquatic plants and other plant matter.
- Diurnal/nocturnal.
- Primarily aquatic.
- A gentle and shy species.
- Several individuals may aggregate inside the same hole, hiding and resting.



繁殖

- 約 5 歲左右達性成熟期。
- 春 / 夏季交配。
- 夏季產卵。
- 每個繁殖季節產卵 1 至 2 窩，每次在濕潤的沙土內產卵 2 至 5 枚。
- 孵化期在 30°C 下約 60 日。

生境

- 林木繁茂的山溪、水潭及沼澤。

分佈

- 廣泛分佈於本港各地，但非常罕見。
- 分佈於南中國、越南、緬甸及寮國。

存護狀況

- 本地原生種。
- 野生動物保護條例：〈受保護野生動物〉
- 中國瀕危動物紅皮書：〈極危〉，為“國家 II 級重點保護野生動物”
- IUCN 紅皮書(2000)：〈極危〉
- CITES：附表 II

備註

- 在寵物店有小量的金錢龜出售。
- 管有金錢龜需要漁農自然護理署發出的管有証。
- 漁農自然護理署與嘉道理農場暨植物園現正開展一個金錢龜的護理計劃，以保護這種原生龜種。
- 在國內，已有小規模的金錢龜人工養殖場。

BREEDING

- Sexual maturity at around five years.
- Mating in spring/summer.
- Egg laying in summer.
- About 1-2 clutches in each breeding season and 2-5 eggs per clutch laid in moist sandy soil.
- Incubation period ~60 days at 30°C

HABITAT

- Mountain streams, pools and marshes in forested areas.

DISTRIBUTION

- Widely distributed but a rare species in Hong Kong.
- Occurs in southern China, Vietnam, Myanmar, Laos.

CONSERVATION STATUS

- Native.
- Wild Animals Protection Ordinance: <Protected Wild Animal>
- China Red Data Book: <Critically Endangered>, listed as a "Class II State Key Protected Animal"
- IUCN Red List 2000: <Critically Endangered>
- CITES: Appendix II

REMARKS

- Small numbers of individuals available in pet shops.
- Possession licence issued by the AFCD required for keeping this species.
- AFCD and KFBG have initiated a conservation program for Three-lined Box Turtle to protect this native turtle species in Hong Kong.
- Captive farming is conducted on a small-scale in China.

淡水龜 FRESHWATER TURTLES



黃喉擬水龜
Yellow Pond Turtle

90

爬行綱-龜鱉目-龜科
黃喉擬水龜

Reptilia-Testudines-Emydidae
Mauremys mutica

俗名

- 石金錢龜、水龜

COMMON NAME

- Yellow Pond Turtle

特徵

- 喉部黃色、頭部黑色。眼後有一條黃線。
- 背甲~15厘米、灰啡色、扁平、有一條明顯脊稜及兩條不明顯側稜。
- 腹甲呈黃啡色，每塊盾片有一黑斑。
- 趾間有蹼。

CHARACTERISTICS

- Yellow throat and black head. A yellow stripe behind the eye.
- Carapace ~ 15cm, greyish brown, flattened, with a distinct central keel and two less obvious lateral keels.
- Plastron yellowish brown with a black blotch on each scute.
- Digits webbed.

食物及習性

- 雜食。喜吃小魚、蝦、昆蟲、蚯蚓及植物。
- 晝行性。
- 半水生。
- 性情純良。

DIET AND HABITS

- Omnivorous. Feeds on small fish, shrimps, insects, earthworms and plant matter.
- Diurnal.
- Semi-aquatic.
- A gentle species.





繁殖

- 性成熟期約 5 歲左右。
- 春 / 夏季交配。
- 夏季產卵。
- 每個繁殖季節產卵 1 至 4 窩，每次在濕潤的泥內產卵 1 至 7 枚。

生境

- 山間谷地或溪流。

分佈

- 被放生的黃喉擬水龜曾在新界數處被發現。
- 原產於中國、越南及日本。

存護狀況

- 外來品種。
- 中國瀕危動物紅皮書：〈瀕危〉
- IUCN 紅皮書(2000)：〈瀕危〉
- CITES: 附表 II

備註

- 在寵物店出售的黃喉擬水龜大部份是人工繁殖的幼龜。
- 蓄意在野外放生。現時沒有跡象顯示黃喉擬水龜能在本地繁殖。

BREEDING

- Sexual maturity at about five years.
- Mating in spring/summer.
- Egg laying in summer.
- About 1-4 clutches in each breeding season and 1-7 eggs per clutch laid in moist soil.

HABITAT

- Hillside basin or stream.

DISTRIBUTION

- Released individuals found in some parts of the New Territories.
- Occurs in China, Vietnam and Japan.

CONSERVATION STATUS

- Exotic.
- China Red Data Book: <Endangered>
- IUCN Red List 2000: <Endangered>
- CITES: Appendix II

REMARKS

- Available in pet shops, mostly captive-bred hatchlings.
- Intentionally released to the wild. No signs of the establishment of wild populations locally.



淡水龜 FRESHWATER TURTLES



花龜
Chinese Striped-neck Turtle

92

爬行綱-龜鱉目-龜科
花龜

俗名

- 花龜

特徵

- 頭、頸及四肢均有很多窄長的黃色條紋。
- 背甲~20厘米、栗啡色。有三條縱稜，幼龜的縱稜十分明顯，成龜的縱稜則變得不清楚。
- 腹甲呈黃啡色，每塊盾片有一黑斑。
- 有一條細長的尖尾巴。
- 趾間有蹼。

食物及習性

- 雜食。喜吃小魚、蝦、昆蟲、及植物。
- 晝行性。
- 半水生。
- 性情純良。
- 數隻花龜可能居於同一洞穴。

Reptilia-Testudines-Emydidae
Ocadia sinensis

COMMON NAME

- Chinese Striped-necked Turtle

CHARACTERISTICS

- Characterized by the presence of many narrow yellow stripes on head, neck and limbs.
- Carapace ~ 20cm, chestnut brown. With three keels which are distinct in young and become less obvious in adults.
- Plastron yellowish brown with a pale black blotch on each scute.
- A long, thin and pointed tail.
- Digits webbed.

DIET AND HABITS

- Omnivorous. Feeds on small fish, shrimps, insects, and plant matter.
- Diurnal.
- Semi-aquatic.
- A gentle species.
- Several individuals may live in the same hole.



繁殖

- 性成熟期約5歲左右。
- 夏季交配。
- 夏季產卵。
- 每個繁殖季節產卵2至3窩，每次在濕潤的泥內產卵3至4枚。

生境

- 池塘、水塘及水流緩慢的河流。

分佈

- 被放生的花龜曾在新界數處被發現。
- 原產於中國、寮國及越南。

存護狀況

- 外來品種。
- 中國瀕危動物紅皮書：〈瀕危〉
- IUCN 紅皮書(2000)：〈瀕危〉

備註

- 花龜常見在寵物店出售，大部份是人工繁殖的幼龜。
- 蓄意在野外放生。現時沒有跡象顯示花龜能在本地繁殖。

BREEDING

- Sexual maturity at about five years.
- Mating in summer.
- Egg laying in summer.
- About 2-3 clutches in each breeding season with 3-4 eggs per clutch laid in moist soil.

HABITAT

- Ponds, reservoirs and slow flowing rivers.

DISTRIBUTION

- Released individuals found in some parts of the New Territories.
- Occurs in China, Laos and Vietnam.

CONSERVATION STATUS

- Exotic.
- China Red Data Book: <Endangered>
- IUCN Red List 2000: <Endangered>

REMARKS

- Commonly available in pet shops, mostly captive-bred hatchlings.
- Intentionally released to the wild. No signs of the establishment of wild populations locally.



淡水龜 FRESHWATER TURTLES



幼龜
Hatchling



鱉
Chinese Soft-shelled Turtle

爬行綱-龜鱉目-鱉科
鱉

Reptilia-Testudines-Trionychidae
Pelodiscus sinensis

俗名

- 水魚

特徵

- 跟其它龜類不同，身體覆以革質皮膚。
- 背甲~35厘米、深橄欖綠色，背後有一褶柔軟的皮膚。
- 腹甲呈灰白色。
- 像豬的鼻子。
- 趾間滿蹼。
- 頸長。

食物及習性

- 主要是肉食性。喜吃小魚及細小的無脊椎動物，當肉食缺乏時，也吃植物。
- 晝/夜行性。
- 喜愛在魚塘邊曬日光浴。有時會由一個魚塘爬往另一個魚塘。
- 水生。
- 性兇猛。會主動找尋獵物或將部份身體埋在泥中靜候獵物。只需將鼻子伸出水面就可呼吸。

COMMON NAME

- Chinese Soft-shelled Turtle

CHARACTERISTICS

- Unlike other turtles, body covered with a leathery skin.
- Carapace ~ 35cm, dark olive green. Rear side has a flap of soft skin.
- Underside greyish white in colour.
- With a pig-like nose.
- Digits fully webbed.
- With a long neck.

DIET AND HABITS

- Primarily carnivorous. Feed on small fish and small invertebrates. May also eat plants when animal food is not available.
- Nocturnal/diurnal.
- Fond of basking on pond banks. Seen crossing from one fishpond to another.
- Aquatic.
- Aggressive. Actively searches for food or waits for passing prey by burying itself partly in mud. Protrudes only its nose from the water surface to breathe.



繁殖

- 性成熟年齡約3至5歲。
- 春/夏季交配。
- 夏季產卵。
- 每個繁殖季節產卵3至4窩，每次在塘邊產卵40多枚。
- 孵化期在30°C下約40日。

生境

- 魚塘、水塘及水流緩慢的河流。

分佈

- 在本地水塘及后海灣的魚塘出沒。
- 分佈於中國、日本、韓國、印尼及越南。

存護狀況

- 本地原生種。
- 野生動物保護條例：〈受保護野生動物〉
- 中國瀕危動物紅皮書：〈易危〉
- IUCN 紅皮書(2000)：〈易危〉

備註

- 在國內有大規模的人工養殖。為本港街市常見的食用龜蟹類。

BREEDING

- Sexual maturity at 3 to 5 years.
- Mating in spring/summer.
- Egg laying in summer.
- About 3-4 clutches in each breeding season and up to 40 eggs per clutch on bankside area.
- Incubation period ~40 days at 30°C

HABITAT

- Ponds, reservoirs and slow-flowing rivers.

DISTRIBUTION

- Locally found in reservoirs and fishponds in Deep Bay area.
- Occurs in China, Japan, Korea, Indonesia and Vietnam.

CONSERVATION STATUS

- Native.
- Wild Animals Protection Ordinance: <Protected Wild Animal>
- China Red Data Book: <Vulnerable>
- IUCN Red List 2000: <Vulnerable>

REMARKS

- Captive-farmed in large quantities in China. Commonly sold in local markets as a food item.

淡水龜 FRESHWATER TURTLES



平胸龜
Big-headed Turtle

爬行綱·龜鱉目·平胸龜科 平胸龜

俗名

- 大頭龜、鷹嘴龜

特徵

- 頭大及不能縮入龜殼內。
- 上顎有像鷹嘴的喙。
- 背甲~20厘米、棕啡色、長型。
- 腹甲細小呈灰黃色。
- 身體呈極扁平狀。
- 四肢的爪十分發達。由鱗片覆蓋的尾巴十分長。
- 趾間有蹼。

食物及習性

- 肉食。喜吃魚、蛙、蝌蚪、蝦、蟹及蝸牛。
- 夜行性。日間躲在枯葉堆或石縫中。
- 水生。善泳及善爬。
- 性情兇猛，攻擊時以極快速度撲咬獵物。
- 喜歡獨居。
- 生長速度緩慢。

Reptilia-Testudines-Platysternidae

Platysternon megacephalum

COMMON NAME

- Big-headed Turtle

CHARACTERISTICS

- Head large and cannot be retracted into shell.
- Hooked beak on its upper jaw like an eagle's.
- Carapace ~ 20cm, reddish brown, elongated.
- Plastron reduced and greyish yellow.
- Body highly flattened.
- Strong clawed limbs and a very long tail covered with scales.
- Digits webbed.

DIET AND HABITS

- Carnivorous (fish, frogs, tadpoles, shrimps, crabs, snails).
- Nocturnal. Hides under leaf litter or crevices during daytime.
- Aquatic. Good swimmer and climber.
- An aggressive turtle which attacks and bites its prey with a fast stroke.
- Solitary. Likes to live alone.
- Slow growth rate.



繁殖

- 約 5 至 6 歲左右達性成熟。
- 春 / 夏季交配。
- 夏季產卵。
- 每個繁殖季節產卵 1 至 3 窩，每次在溪邊的沙土產卵 1 至 3 枚。
- 孵化期在 30°C 下約 60 日。
- 幼龜甲殼長約 3 厘米。

生境

- 清澈及流水淙淙的山澗及水潭。
- 喜歡清涼的生長環境。

分佈

- 本地只在大帽山、大埔滘、馬鞍山及鳳凰山出沒。
- 分佈於中國中部及南部、緬甸、泰國及越南。

存護狀況

- 本地原生種。
- 野生動物保護條例：〈受保護野生動物〉
- 中國瀕危動物紅皮書：〈瀕危〉
- IUCN 紅皮書(2000)：〈瀕危〉
- CITES: 附表 II

備註

- 間中在街市及寵物店出售。

BREEDING

- Sexual maturity at around 5 to 6 years.
- Mating in spring and autumn.
- Egg laying in summer.
- About 1-3 clutches in each breeding season and 1-3 eggs per clutch laid in riparian sandy areas.
- Incubation period ~60 days at 30°C.
- Hatchling's carapace ~3cm.

HABITAT

- Upland streams with clean running water and water pools.
- Prefers a living place with cool climate.

DISTRIBUTION

- Locally restricted to Tai Mo Shan, Tai Po Kau, Ma On Shan and Sunset Peak.
- Occurs in central and southern China, Myanmar, Thailand and Vietnam.

CONSERVATION STATUS

- Native.
- Wild Animals Protection Ordinance: <Protected Wild Animal>
- China Red Data Book: <Endangered>
- IUCN Red List 2000: <Endangered>
- CITES: Appendix II

REMARKS

- Sometimes available in food markets and pet shops.

淡水龜 FRESHWATER TURTLES



鋸緣攝龜
Keel Box Turtle



底部
Underside

爬行綱·龜鱉目·龜科
鋸緣攝龜

俗名

- 方龜、八角龜

特徵

- 背部高而平，後緣呈鋸齒狀。
- 背甲~18 厘米，有 3 條明顯縱棱、黃褐色。
- 腹甲淺黃色。前半部腹甲可動，因此可把一半的龜殼閉合。
- 趾間有蹼。

食物及習性

- 雜食。喜吃昆蟲、魚、蝦及果實。
- 晝行性。
- 半水生。

繁殖

- 繁殖習性所知甚少。
- 每個繁殖季節可能產卵數窩，每次在濕潤的泥內產卵 1 至 3 枚。
- 雌龜個體大過雄龜。

Reptilia-Testudines-Emydidae
Pyxidea mouhotii

COMMON NAME

- Keel Box Turtle

CHARACTERISTICS

- High flat back with serrated rear end.
- Carapace ~ 18cm, with three obvious keels, yellowish brown.
- Plastron light yellow. Anterior part hinged and movable, thus can close the shell partly.
- Digits webbed.

DIET AND HABITS

- Omnivorous (insects, fish, shrimps, fruit).
- Diurnal.
- Semi-aquatic.

BREEDING

- Little is known about breeding habits.
- May produce a few clutches in each breeding season with 1-3 eggs per clutch laid in moist soil.
- Female larger in size than male.



生境

- 森林，通常靠近溪流。

分佈

- 被放生的鋸緣攝龜曾在新界被發現。
- 原產於中國、印度、緬甸、泰國及越南。

存護狀況

- 外來品種。
- 中國瀕危動物紅皮書：〈瀕危〉
- IUCN 紅皮書(2000)：〈瀕危〉
- CITES: 附表 II

備註

- 在本地街市及寵物店有鋸緣攝龜出售。
- 蓄意在野外放生。現時沒有跡象顯示鋸緣攝龜能在本地繁殖。

HABITAT

- Forest, often near streams.

DISTRIBUTION

- Released individuals found in the New Territories.
- Occurs in China, India, Myanmar, Thailand and Vietnam.

CONSERVATION STATUS

- Exotic.
- China Red Data Book: <Endangered>
- IUCN Red List 2000: <Endangered>
- CITES: Appendix II

REMARKS

- Available in local market and pet shops.
- Intentionally released to the wild. No signs of the establishment of wild populations locally.

淡水龜 FRESHWATER TURTLES



眼斑水龜
Beale's Turtle

Cheung Sze-man

爬行綱-龜鱉目-龜科
眼斑水龜

Reptilia-Testudines-Emydidae
Sacalia bealei

俗名

- 眼斑水龜

特徵

- 頭後側有一對眼斑。
- 背甲~18厘米，啡色、有斑點及脊稜。
- 腹甲呈黃色、帶有黑斑。
- 趾間有蹼。

食物及習性

- 雜食。喜吃肉類，食物包括魚、蝦、昆蟲及蚯蚓。
- 夜行性。日間躲在洞穴或石縫中。
- 水生。
- 體小。
- 間中會曬日光浴。

COMMON NAME

- Beale's Turtle

CHARACTERISTICS

- Characterized by the presence of a pair of "eye spots" behind the head.
- Carapace ~ 18cm, brown and spotted with a central keel.
- Plastron yellow with black blotches.
- Digits webbed.

DIET AND HABITS

- Omnivorous. Prefers meat. Food items include fish, shrimps, insects, and earthworms.
- Nocturnal. Hides inside holes or crevices during daytime.
- Aquatic.
- Timid.
- Sometimes basks under sunlight.



繁殖

- 約5至6歲左右達性成熟。
- 春季交配。
- 夏季產卵。
- 每個繁殖季節產卵1至3窩，每次在溪邊的沙土產卵1至2枚。
- 孵化期在30°C下約60日。

生境

- 清澈及水流緩慢的山澗。

分佈

- 本地只在大帽山、粉嶺、九龍水塘及大埔滘找到數隻眼斑水龜。
- 分佈於中國中部及南部以及越南。

存種狀況

- 本地情況不明 - 可能是原生或外來品種。
- 中國瀕危動物紅皮書：〈瀕危〉
- IUCN 紅皮書(2000)：〈瀕危〉

備註

- 眼斑水龜在本港的情況不明。雖然香港位於眼斑水龜的自然分佈地，但是所找到的個體很少，我們對它是否本地原生的龜類存疑。或者，找到的個體是被遺棄的寵物或是從街市買來放生的眼斑水龜。
- 間中在寵物店出售。

BREEDING

- Sexual maturity at around 5 to 6 years.
- Mating in spring.
- Egg laying in summer.
- About 1-3 clutches in each breeding season with 1-2 eggs per clutch laid in riparian sandy areas.
- Incubation period ~60 days at 30°C.

HABITAT

- Hillside streams with clean and slow-flowing water.

DISTRIBUTION

- A few specimens found in Tai Mo Shan, Fanling, Kowloon Reservoirs and Tai Po Kau.
- Occurs in central and southern China and Vietnam.

CONSERVATION STATUS

- Uncertain status - native/exotic.
- China Red Data Book: <Endangered>
- IUCN Red List 2000: <Endangered>

REMARKS

- The status of Beale's Turtle is uncertain. Although Hong Kong is within its natural range, the native status of Beale's Turtle is in doubt as only a few specimens have been found. Perhaps, the specimens found are released individuals from the food/pet markets.
- Occasionally available in pet shops.

淡水龜 FRESHWATER TURTLES



在享受日光浴的巴西龜及火神龜
Basking Red-eared Sliders and Painted Turtles



巴西龜
Red-eared Slider

爬行綱-龜鱉目-龜科

巴西龜

俗名

- 紅耳龜

特徵

- 身體通常為橄欖綠色、眼後有顯眼的紅斑。由眼到頸有黃色條紋。色彩斑斕的龜種。
- 背甲~20厘米、橄欖綠色、有黃色條紋。
- 腹甲呈黃色、帶有黑斑。
- 趾間滿蹼。

食物及習性

- 雜食，食量大。喜吃肉類，食物包括魚、蟲、昆蟲及水生植物。
- 晝行性。喜愛在塘邊甚至是浮在水面曬日光浴，通常很多隻龜會走在一起。
- 水生。
- 比大多數其它龜類更不怕人及活躍。只有在受到騷擾或太靠近時才會逃走。

Reptilia-Testudines-Emydidae

Trachemys scripta elegans

COMMON NAME

- Red-eared Slider

CHARACTERISTICS

- Generally olive green body with characteristic red blotch behind the eyes. Yellow stripes from eyes to neck. A colorful species.
- Carapace ~ 20cm, olive green and streaked with yellow stripes.
- Plastron yellow with black blotches.
- Digits fully webbed.

DIET AND HABITS

- Omnivorous and voracious. Prefers meat. Food items include fish, worms, insects and aquatic plants.
- Diurnal. Fond of basking on pond banks or even on water surface, usually many individuals staying together.
- Aquatic.
- More brave and active than other turtles. Will only flee when disturbed or approached too closely.



繁殖

- 約 4 至 5 歲左右達性成熟。
- 春季交配。
- 夏季產卵。
- 每個繁殖季節產卵 3 至 4 窩，每次在岸邊的地方產卵 3 至 19 枚。

生境

- 池塘及水塘。

分佈

- 廣泛分佈於本港的水塘及公園的池塘。
- 來源地為北美洲。

存護狀況

- 外來品種。
- 已在本地大量繁殖。

備註

- 最常出售作寵物的龜類。
- 巴西龜可能跟烏龜有同樣的生活環境及食物需求。在兩者互相競爭下，烏龜的數目大量減少。這個例子說明外來品種對本地生物多樣性的影響。
- 雖然俗名叫巴西龜，卻並不產於巴西，而是產於北美洲。

BREEDING

- Sexual maturity at around 4 to 5 years.
- Mating in spring.
- Egg laying in summer.
- About 3-4 clutches in each breeding season and 3-19 eggs per clutch on bankside areas.

HABITAT

- Ponds and reservoirs.

DISTRIBUTION

- Widely distributed and commonly found in reservoirs or ponds in urban parks.
- Originated in North America.

CONSERVATION STATUS

- Introduced.
- Feral population well established in Hong Kong.

REMARKS

- The most common commercially available pet turtle species.
- It was thought that the introduced Red-eared Slider, which has a similar niche to that of Reeves' Turtle, competes for food and space, and thus leads to the decline in the population of the latter. This illustrates the potential adverse impact of an introduced species on local biodiversity.
- Although in Chinese called "Brazil Turtle", it does not occur naturally in Brazil but in North America.



迢迢千里 Green Turtles in Hong Kong

- 作者 Author : 陳堅峰 Simon Chan
(香港特別行政區政府漁農自然護理署)
[Agriculture, Fisheries and Conservation Department,
HKSAR Government]
- 攝影 Photography : 香港特別行政區政府漁農自然護理署
Agriculture, Fisheries and Conservation Department,
HKSAR Government
- 英文編輯 English Editor : 艾思滔 Edward Stokes
- 封面題字 Calligraphy : 簡業輝 YF Kan
- 設計及承印 Design & Printing : 寶華數碼印刷有限公司 Power Digital Printing Co. Ltd.
- 出版 Publisher : 郊野公園之友會 Friends of the Country Parks
<http://www.focp.org.hk>

天地圖書有限公司
香港灣仔皇后大道東 109-115 號
智群商業中心十三字樓
電話：2528 3671
傳真：2865 2609

Cosmos Books Ltd.
13/F., Greatmany Centre, 109-115,
Queen's Road E.,
Wanchai, Hong Kong
Tel: 2528 3671 Fax: 2865 2609

ISBN NO. : 988 201 610 3

版次 : 二〇〇三年七月第一版

Edition : First edition July, 2003

© 所有文字及照片之版權由出版者及作者擁有，未經書面同意，不得翻印或轉載。

© All articles and photographs in this publication may not be reprinted or reproduced without written permission of the publisher or the photographers. All rights reserved.

參考書目 Bibliography

張孟聞、宗愉、馬積藩編著，
1998，中國動物志 爬行綱 第一卷
總論 龜鱉目 鱷形目。科學出版社，
1 - 213。

趙爾宓等，1998，中國瀕危動物紅
皮書兩棲類和爬行類。科學出版
社。1 - 330。

Devaux, B. and B. De Welter. 2000. On the Trail of Sea
Turtles. Barron's Educational Series, Inc., 128pp.

Ernst, C.H. and R.W. Barbour. 1989. Turtles of the World.
Smithsonian Institution Press, Washington, 313pp.

Karsen, S. J. et al. 1998. Hong Kong Amphibians and
Reptiles (2nd Edition). Provisional Urban Council, Hong
Kong, 186 pp.



由於香港的環境不斷改變，近年已很少發現海龜的蹤跡。時至今日，南丫島的深灣是本港唯一現存的綠海龜產卵地。為了保護綠海龜，深灣的沙灘已在1999年7月根據《野生動物保護條例》被列為「限制地區」，禁止未持有許可證人士在海龜的繁殖季節進入，以減低人們對該地的影響。

本書簡述了綠海龜的生物學資料、在本港的情況及有關的保護工作，亦介紹香港的其他海龜類。希望藉此令大眾市民認識到保護野生動物及護理大自然的重要性。

Sightings of sea turtles in local waters are becoming rare, because of Hong Kong's changing environment. At present Sham Wan, on Lamma Island, is the only existing nesting site of Green Turtles in Hong Kong. For the protection of Green Turtles, the sandy beach at Sham Wan was designated a Restricted Area in July 1999, under the Wild Animals Protection Ordinance. During the breeding season, entering the area without a permit is not allowed. This protection aims to minimize the disturbance caused by people to the nesting Green Turtles.

This booklet describes the biology, local status and conservation measures of Green Turtles in Hong Kong. Information about other turtles in Hong Kong is also included. It aims to raise public awareness about the importance of wildlife protection and nature conservation.



漁農自然護理署
Agriculture, Fisheries and
Conservation Department



郊野公園之友會
Friends of the Country Parks
<http://www.focp.org.hk>



天地圖書有限公司
Cosmos Books Ltd.

ISBN 988-201-610-3



9 789882 016101

Published & Printed
in Hong Kong
HK\$50.00