

海洋生物博物館圖鑑系列①

# 台灣鯨類圖鑑

GUIDE TO  
CETACEANS OF TAIWAN

周蓮香著

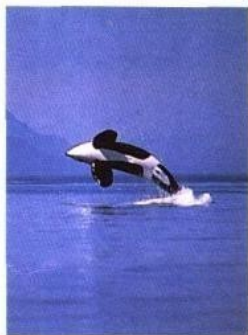


國立海洋生物博物館籌備處出版

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周蓮香著

Chou, Lien Siang

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## 序

我們需要海洋！陸上環境已愈來愈惡化了。但是在開發利用海洋之前，我們務必要先去瞭解它，莫又重蹈了人類對陸上生物趕盡殺絕的覆轍。國立海洋生物博物館正是一個促進社會對海洋生物廣泛瞭解，進而喜愛、保護、研究的機構。為了達成這個目標，本館將有計畫的出版一系列的海洋生物圖書，讓專業的學術變成普及的知識。台大周蓮香博士的“台灣鯨類圖鑑”正是我們的第一先鋒。

請周博士來撰寫“台灣鯨類圖鑑”不僅僅因為她是國內海洋哺乳類研究的佼佼者，更是因為她對社會公益、科學教育及野生動物保育熱心奉獻的個性與態度。這種熱情誠於衷而形於外，在一本書的文字、圖片及各種製作細節上，都會流露出來的。因此，作為一個寫序者，我寧願簡練我的語言，而讓讀者細細的去體會出這本書的用心，與寫這本書的專心。

國立海洋生物博物館籌備處主任

方力行

謹識

八十三年三月

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## FOREWORD

I welcome this book, both personally and on behalf of IUCN's Cetacean Specialist Group (CSG), not just for what it is -- a well-written and well-illustrated introduction to the whales and dolphins of Taiwan -- but also for what it represents.

In recent decades, Taiwan has been often maligned in the foreign press for poor environmental policies and practices. Critics have cited the Government's sponsorship of high-seas driftnet fisheries, which have had significant impacts on populations of dolphins, as well as other non-target animals, wherever they have operated, and its countenancing of unregulated dolphin harvests, notably in the Penghu Islands.

In 1990, with encouragement and counsel from many quarters, including conservation organizations from outside Taiwan, the Government of Taiwan passed legislation which formally extended protection to whales and dolphins. In 1991, Taiwanese fishermen joined their colleagues from other Asian nations in formally abandoning high-seas driftnetting. And in 1992, a coalition of Taiwanese scientists, including the author of this book, began an ambitious, Government-sponsored program to study Taiwan's whales and dolphins. Among other things, these scientists are: interviewing fishermen to determine which species of whales and dolphins occur around Taiwan, determining the status of cetacean populations in Taiwanese waters; and assessing the potential for whales and dolphins in Taiwan to su-

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support such "non-consumptive" uses as whale and dolphin watching and such "low-consumptive" uses as stocking of a few small oceanaria within Taiwan.

Let us be clear. The mere passage of laws and regulations and the initiation of research programs cannot assure adequate protection of whales and dolphins. We know, for example, that some illegal driftnetting still occurs, especially in the Indian Ocean and South Atlantic. We also know that wherever driftnets are used, by fleets on the high seas or small boats in coastal waters, some cetaceans die. There is simply no way to avoid this cost of doing business when using such fishing methods. Further, experience tells us that, like environmental legislation elsewhere, the new marine mammal protection law in Taiwan will have to be further shaped by research and debate before it can be implemented fairly, with due consideration for the humans which share the marine environment with whales and dolphins. The research begun so recently will produce results only slowly at first. (To understand long-lived animals one must commit to long-term study.) And because Taiwan's plans to develop a few displays featuring captive dolphins come at a time of heightening international debate about the appropriateness of keeping whales and dolphins in captivity, those responsible for implementing Taiwan's plans will have to take great care to avoid simply replacing one set of controversies involving whales and dolphins with another.

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Despite these pitfalls, there is cause for optimism that the bold gestures within Taiwan are signs of a change in environmental attitudes and practices. I commend Taiwanese officials and scientists for their significant recent progress in understanding and conserving whales and dolphins. I pledge the support of the CSG to further efforts within Taiwan to understand and conserve cetaceans as part of healthy marine ecosystems. And I encourage all who read this book to join in these considerable efforts.

We must be realistic in our expectations and approaches. No part of the world faces greater challenges in nature conservation than Asia. Lands and waters of this venerable region have been under continuous use for thousands of years, and they must remain in use to feed and accommodate over a third of the world's growing human population. Given these realities, nature conservation programs in Asia, as elsewhere, must move beyond the saving of a single species or protection of a few representative ecosystems. They must become part of sincere efforts to secure an unchallenged place for wild animals and wild places in a world increasingly dominated by human activities.

I believe that the subjects of Dr. Chou's book, can help in these efforts. Whales and dolphins are powerful symbols of what is right and wrong in human stewardship of the oceans. They are highly visible signs of the

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health and vitality of the ecosystems of which they are a part. If we can keep the oceans rich with whales and dolphins, we will thereby assure that they are also healthy places for a diversity of other life forms, including the seas' less visible, but nonetheless important, creatures.

A handwritten signature in black ink, reading "Stephen Leatherwood". The signature is fluid and cursive, with a large, sweeping loop at the end of the last name.

Stephen Leatherwood  
Chairman  
IUCN/SSC Cetacean Specialist Group  
c/o Ocean Park Conservation Foundation  
Ocean Park, Aberdeen  
Hong Kong  
28 March 1994

## 自序

1990年春天，澎湖海豚屠殺事件披露於國際間，又引燃了一個國際保育焦點，海豚等鯨目動物在國內才開始受到注目與關懷，也才發現國內除了楊鴻嘉先生過去20年來默默耕耘，及周文豪先生發表過侏儒抹香鯨(*Kogia simus*)台灣新記錄之外，其餘竟是一片空白。

反觀歐美之研究論文已如天上之繁星，難以計數，即使彼岸中國大陸，於1949年之後也有將近200篇作品，因此激起筆者好奇探究之開端。鯨類研究在我國及東亞(除日本外)地區長久以來不受重視，至今為止，其中文譯名在國內(台灣及大陸)亦甚為混亂，為減少研究上之混淆，筆者曾先後與本地學者楊鴻嘉、賴景陽，大陸學者周開亞、王丕烈、王丁，及日本學者粕谷俊雄請教與溝通，本書所採用之中文譯名乃整合上述學者意見所得初步結果。

台灣附近海域鯨類之分布資料極為匱乏，換言之，發現新記錄之潛在機會極大，過去我國海域曾有26種記錄(楊1976, Chou1989, 何1991)，此外台大、中山及海洋大學等在漁港訪問中又得太平洋駝海豚及伊河海豚記錄。為使後進者在未來鑑定上能不侷限舊有記錄，因此本圖鑑的學名及分類除了依據最近文獻修正外，並加上在台灣海域還可能出現之5種，共列32種，以供參考。本圖鑑分成六部份：(1)



鯨類之生物學簡介 包括演化及外形生理上之特化，  
(2)鯨目各科之簡介，(3)各鯨種介紹，(4)鯨種之外形檢  
索表，(5)野外觀察記錄要點，(6)擱淺處理要點。願藉  
此圖鑑為國內鯨類之保育與研究點燃星星之火。

周蓮香

謹識於台灣大學動物學系

## 謝辭

這雖是一本小小的書，其所以能完成背後有許許多多人的努力與貢獻。首先得感謝美國加州Southwest Fisheries Science Center, NMFS的工作成員Dr. W. F. Perrin, Dr. S. Leatherwood, T. Jefferson, Dr. S. Chivers, 及Los Angeles County Museum Dr. J. Heyning等之顧問及慨授許多參考資料，其次對Pieter Folkens, R. L. Pitman, S. Leatherwood, W. F. Perrin, J. Y. Wang (Porpoise Rescue Program, Canada) 及美國海洋哺乳動物基金會(Marine Mammal Fund)之Earth Views Photo Library，中規開發股份有限公司野柳海洋世界等，為促進鯨類保育工作，慨然允許免費使用其精心製作的鯨類圖片及照片致最高之敬意。此外也要感謝國內國立海洋生物博物館籌備處之贊助，方力行主任及李展榮先生之鼓勵與支持，林君寧小姐行政上之協助，及筆者實驗室中姚秋如、蔡偉立等助理協助整理資料、校稿及繪製草圖，執行編輯蔡惠卿小姐及美術編輯詹安妮小姐等。由於這些人士及機構的協助與努力，才使得這世界第一本中文彩色鯨類圖鑑得以問世，心中充滿無盡的欣喜與感謝。最後感謝恩師們的培育及先父賦予我自由心志與對大自然未知挑戰的勇氣。





企盼著那  
跨海的默契



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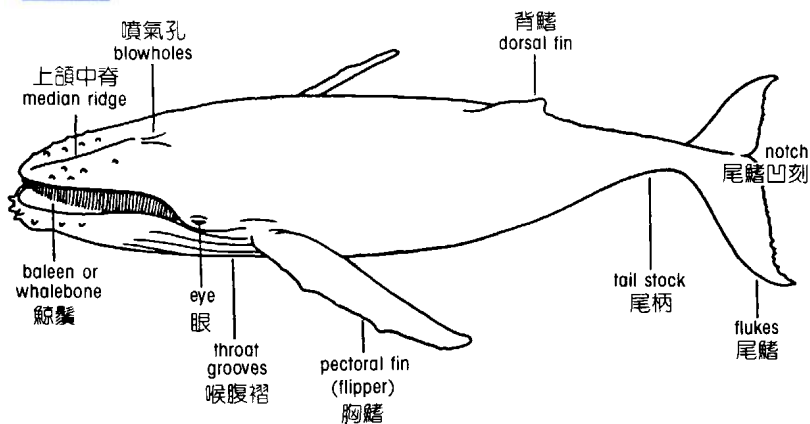
## 壹. 鯨類生物學

在汪洋大海中有這麼一群生物，要不是龐碩嚇人，體長在10~30公尺，體重可達160噸，要不就是靈敏慧黠；牠們久遠以來被人們認為是魚類，直至1758年，瑞典生物學家林奈才確認其為哺乳動物。中國人慣稱「鯨魚」，事實上牠們不是魚類，在生物分類學上，牠們同屬於哺乳動物綱(Class Mammalia)鯨目(Order Cetacea)之下，在西方慣用者則有三個名詞Whale, dolphin及porpoise，也曾造成不少混淆，但通常whale指稱大型鯨類，dolphin指中型，有牙齒者，而porpoise則為體型最小者，在近年因研究較多，漸漸以porpoise專稱鼠海豚科(Family Phocoenidae)動物，dolphin則以海豚科及淡水豚類(Family Delphinidae, Platanistidae, Iniidae, Pontoporiidae)動物為主，而whale則是泛指稱大型的鯨類為主。

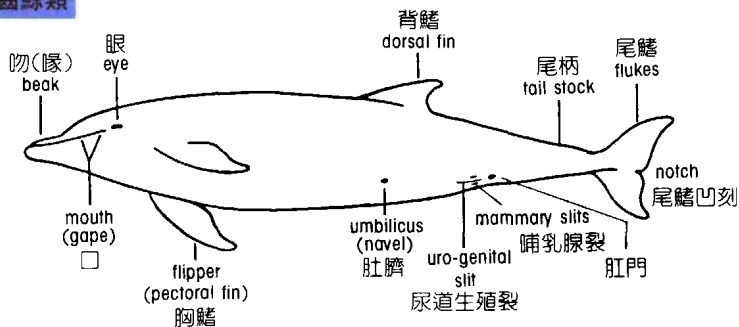
鯨目動物是海洋中唯一不用鰓而採用肺呼吸的一群高等動物，在演化史上，牠們是如何出現的呢？牠們可能在五千~一千萬年前，在古新世(Paleocene)與始新世(Eocene)之間，由原始的有蹄類的髁節目(Condylarthra)中之爪獸科(Mesonychidae)所進化而來，目前有許多證據顯示，鯨類與有蹄類在生化及形態解剖上有許多相似處，如生殖構造(子宮、臍帶、陰莖)及染色體數目結構等，美國加州Southwest Fisheries Science Center的Dr. A.E. Dizon近年來發現海豚之mt DNA與牛的mt DNA較相近，而與其他鼠類或靈長類者較遠。在有蹄類中，與鯨類最近者莫過於偶蹄類(Artiodactyls)了。

## 鯨類外形圖示

### 鬚鯨類



### 齒鯨類



註：雄體不具哺乳腺裂，且肛門與尿道生殖裂距離較長。





長須鯨頭部仰枕於地板上  
S. Leatherwood 攝

其演化過程可能是：最早在非洲、歐洲間的Tethys Sea所發現之*Pakicetus* sp.化石，是屬於原鯨科(Protocetidae)，生殖於河口沼澤區，為水陸兩棲，原鯨漸進化，又分支出完全水域生活的械齒鯨科(Basilosauridae)。械齒鯨體形大，達20公尺長，牙齒特化成濾食性，其在漸新世(Oligocene)蓬勃歧化，但也在漸新世結束而滅絕，曾被學者認為是海洋中的爬蟲類。始新世中期到漸新世早期有一段化石缺乏期，故在此之前包含原鯨科及械齒鯨科的古鯨亞目(Archaeoceti)被認為是最早的鯨類動物。

因鯨類具毛(幼期可見疏毛)、哺乳，故屬於哺乳動物，又因其胎盤，故屬於真獸類。鯨目之下有三個亞目：古鯨亞目(Archaeoceti)齒鯨亞目(Odontoceti)及鬚鯨亞目(Mysticeti)。古鯨類已滅絕，其中包括有齒鯨及鬚鯨的祖先，其仍保有哺乳類之標準齒型，分化成門齒、前臼齒及臼齒，而現生鯨類的牙齒多退化或成簡單型式。為適應水域生活，現生鯨目在外形及生理上有許多特化現象，為使