原色臺灣對蝦圖鑑

農學博士 游 祥 平
農 學 士 陳 天 任 共著
國立臺灣海洋學院

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Marine Science and Technology

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著作簡歷

游 祥 平

1938 年 10 月 15 日　生於台灣省台北。
1971 年 3 月　日本國立九州大學　農學博士
現　職　國立台灣海洋學院漁業系，漁業研究所教授。

陳 天 任

1962 年 11 月 19 日　生於香港。
1985 年 7 月　國立台灣海洋學院水產養殖系畢業　農學士
現　職　Department of Ichthyology and Fisheries Science, Rhodes University, South Africa, 留學中。

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原色臺灣對蝦圖鑑

農學博士游祥平
農學士陳天任 共著

臺灣四週環海，產蝦種類多，產量亦豐富，其中以對蝦最具經濟價值。本書介紹臺灣產對蝦4科15屬54種，並有原色圖82幅，線繪圖4幅，易於辨認。

內容分述一、術語解釋：對蝦在分類學上之部位術語名稱。二、科、屬、種之檢索：按每一科、屬之共同特徵描述後，再列各屬、種之檢索表，可迅速正確檢出。三、種的描述。①蝦名：中文名、中文別名、拉丁學名、英文名、世界糧農組織名稱(FAO)及各國俗名。②種之特徵、體長、體色。③漁業：棲息環境、漁獲量、經濟價值。④地理分布：每種之文後附有亞洲一帶之地理分布圖。⑤每一種均有標準體形原色圖，但如體色、雌雄、特徵上有相當不同者，則另附有對照原色圖比較。

本書爲生物學界、水產資源調查、保育、養殖、食品加工、貿易界人士不可多得的工具書

THE ILLUSTRATED PENAEOID PRAWNS OF TAIWAN

Hsiang-ping Yu, Agr. Dr. &
Tin-yam Chan, Agr. Bs.

The seas around Taiwan are rich breeding grounds for many varieties of prawn, among which the penaeoid prawn ranks foremost in commercial value. This Chinese-English dual-language handbook describes 54 species of penaeoid prawn, illustrated with 82 colour plates and four line drawings. In addition to an explanation of terminology and a key to families, genera and species, the text also includes a detailed description of each individual species, covering (a) Chinese name, scientific name, FAO name, Japanese name & local name; (b) Physical characteristics, body length & colouring; (c) Habitat & indication of economic value; (d) Description of distribution with map. This authoritative introduction to the Taiwan penaeoid prawn will be an invaluable reference tool for the marine biologist as for anyone engaged in the development of fishery resources, aquaculture, food processing or commerce in marine products.

US$ 22.00

自　序

近年來，台灣近海之蝦拖網漁業及蝦養殖業蓬勃發展，對國家之漁業生產和外滙賺取均竭盡貢獻之力。由於漁獲物日益增多，蝦之種類更爲繁多，其中以最具有經濟價值之對蝦類爲主。對於這一類蝦之種名查定知識及介紹國內外人士認識，便顯得相當重要。本書之目的便是期望能普遍的幫助國內外研究蝦類之工作者和漁業及水產作業經營之人士認識台灣產的各種對蝦類。

筆者爲使不甚熟悉分類學的人士，也能夠從外部形態特徵上很容易地辨別出台灣近海產之對蝦類，特以精緻彩色圖片配合簡易檢索表及圖例，深入淺出的完成此著。本書所介紹的對蝦類共有 4 科 15 屬 54 種，其中包括了所有常見的種類，相信日後必能因漁業之繼續發展而發現更多種類，與此同時，亦深感台灣沿海之生物相當豐富而繁多，實爲難得，亦期望本書所列出的種類能作爲海洋生態保育研究的一個參考。

本書在撰寫過程中，筆者對所述及之各項資料，均抱以嚴謹態度，力求其正確性與完整性，尤其是檢索表及體色中之各項，筆者雖已多次重覆測定其可靠性，若仍有疏漏錯誤或需改進之處，祈請先進給予指正，作爲再版時之參考。

最後本書在完成之際，國立台灣海洋學院之王世斌、朱菁文、翁焱等同學曾給予協助整理謹致謝意。

游祥平・陳天任

前　言

本書是以台灣近海蝦拖網漁船所漁獲之對蝦類爲對象，所寫成之「原色台灣對蝦圖鑑」。

對蝦類在台灣蝦拖網漁業及養殖業中，不僅產量多並具有高經濟價值。因此，在資源調查之利用及保育、養殖、加工或貿易等方面，種名的查定是相當重要。

關於台灣之對蝦類研究，李定安與游祥平曾經在 1977 年詳盡的報告 1 科 13 屬 40 種，在台灣產對蝦類之分類上鋪上開端之途。然而，近年來，由於種類增加，部份種類之學名更改，或屬、科之歸屬變遷。因而，筆者擴編重新整理至今鑑定出台灣產常見的及稀有的對蝦類（下目）共有 4 科 15 屬 54 種。標本係數年來自台灣近海蝦拖網漁船漁港: 宜蘭縣南方澳（50～450 公尺水深）、大溪（50～450 公尺水深）、基隆（0～100 公尺水深）、新竹縣南寮（0～100 公尺水深）、嘉義縣布袋（0～30 公尺水深）、台南縣安平（0～30 公尺水深）、高雄縣興達（0～100 公尺水深）; 鼓山（0～100 公尺水深）及旗津（0～30 公尺水深）、屏東縣東港（50～450 公尺水深）及澎湖縣馬公（0～100 公尺水深）等地所採集。其中 10 種爲主要漁業對象，產量很豐富，另外的 28 種常見且具經濟價值，剩下的 16 種爲比較少有至稀有種類，但在學術研究上卻具有重大的意義。

因台灣之西部和東部海域之地形差別很大，其所產之對蝦種類雖然都大略相同，但在數量上則有很大差別。大致淺海區之 0～100 公尺水深海域的漁業已經徹底開發利用，甚至有濫捕的情形，而東部和南部東港沿海有產數種深海性的種類（150 公尺以上水深），雖然目前產量普遍，但因其體型大; 如雄壯鬚蝦、東方擬海蝦等，或數量有時很多; 如等似膜對蝦，深具漁業潛力，故東部之深海漁業發展，亟待學者專家更深入的研究，或許能於更深之海域發現更多具經濟價值的種類。

近年來之草對蝦、短溝對蝦、日本對蝦及劍角新對蝦之養殖業非常發達，最近多毛對蝦亦開始養殖，其他對蝦種類的養殖實驗和加工研究亦於各水產研究機關進行，前途樂觀。故期望本書能夠對國內外之從事研究工作者、學生、漁業行政與生態保護之士，或漁業、水產加工、水產貿易經營者，漁船作業及水產養殖等人員都有助益。

本書是以中文和英文撰寫，期望能使國內外人士對台灣之對蝦類有所認識，進而促進學術交流。書中除少數種類因不易採到新鮮標本，而以繪圖代之外，其餘均以精緻彩色照片配合，說明其外部形態上之主要特徵，並有簡易之科、屬、種檢索表，再附加上簡明的圖例，使不甚熟悉分類學人士亦能容易地辨明各種對蝦。

在每一種蝦之敍述中，包括了下列六項: ㈠聯合國農糧組織（FAO）名稱; 其中（英）＝英國;（法）＝法國;（西）＝西班牙。㈡地方名稱; 這兩項主要是參照 Holthuis（1980）寫成，使讀者能認識國際組織上所使用，或各國不同語言而有不同之蝦名稱呼。㈢外部形態主要特徵; 記述每一種蝦之最顯著及特別的外部形態特徵，而能辨明和其他種類之不同處，並附上其以往在台灣所使用過的學名和體型大小（所表示的均爲體長; 即將標本伸直後由眼窩後緣至尾柄末端之長度。）以供參考對照。㈣體色; 說明各種蝦之體表色彩和斑紋，以協助辨認其特徵。㈤地理分布; 由文獻中歸納出每種蝦之地理分布，以認識其分布範圍。㈥漁業概況; 提示各種蝦之棲息水深、底質、漁獲情況及利用價值，以期待對資源利用上有所助益。另外再加上彩色圖片和地理分布圖，而於體色或形態上有較大變異者，則另外有附上彩色圖片以供參考對照。

FOREWORD

Coastal prawn fishing and prawn aquaculture have been especially well developed during this decade and have become more and more commercially important in Taiwan.

Due to the increase in the number of species collected from coastal prawn trawling and the necessity to have a complete account of the various prawn species, both for academic and commercial purposes, the authors have duly prepared this volume on the Taiwan Penaeoid Prawn as a starting point, since the penaeoid prawn is of major economic importance.

The aim of this publication is to aid both local and foreign prawn workers, students, fishermen, aquaculture managers, processors, buyers, sellers and marine product managers in familiarising themselves with and identifying the Taiwan penaeoid prawn. In order to make this publication easily utilizable by both specialists and non-specialists, the authors have specially prepared a simplified key which accompanies drawn examples and a series of clear colour photographs and distribution maps for each species. In total, 54 species in 15 genera and 4 families are described, including all the common penaeoid species. It is believed that additional species can be found with the development of deep-sea prawn fishing on the eastern coast. The authors are impressed by the richness of the marine fauna around Taiwan and sincerely hope that the present publication can be a reference for pertinent conservation studies.

Although the text and the key have been carefully prepared and checked, errors may remain. The authors would very much appreciate any comments from readers concerning corrections or improvements to the text or key, so that future editions may reach higher standards.

However, the authors would like to thank *S.P. Wang, C.W. Chu, Y. Wang and S.L. Golesworthy* for their kind efforts in preparing the text for this initial impression.

INTRODUCTION

Penaeoid prawns are traditionally a highly valued sea-food and the major basis of the commercial prawn fisheries in Taiwan. Moreover, aquaculture of several species of the penaeoid prawn has also been well developed within the last decade. As penaeoid prawn fishing becomes more and more commercially important and the necessity of branching out to cover the increased number of species grows ever stronger, a complete publication and guide to the Taiwan penaeoid prawn is seriously needed, both for academic and commercial purposes.

Specific taxonomic studies on Taiwan penaeoid prawns were not started until Lee and Yu (1977) reported on and described in detail in Chinese 40 species in 13 genera and 1 family. However, several additional species have been found since then, and the taxonomic status of the various levels in the Superfamily Penaeoidea has been somewhat improved and changed recently. The authors have rearranged the increased numbers of Taiwan penaeoid prawns into 54 species in 15 genera and 4 families.

All the specimens used in these studies were collected from fishing harbours and fish markets: Keelung (taken from 0–100m depth), Ta-Chi (50–450), Su–Aou (50–450m),Nan-Liau (0–100m), Pu-Tai(0–30m), An-Ping (0–30m), Kao-Hsiung (0–50m, 0–100m), Tong-Kang (0–450m), Peng-Hu (0–100m). Among these 54 species ten constitute the major fishing species and are of great commercial significance, 28 species are common to abundant or of minor to moderate economic importance (and some of them have potential), while the other 16 are uncommon to rare. However, their presence in Taiwan waters is important in academic studies.

Due to the great differences in the structure of the sea-bed, the quantity of different species varies from the eastern coast to the western coast, although the species' composition is more or less similar between the two coasts.

Shallow water (0–100m) prawn fishing in Taiwan is well exploited, and even somewhat over exploited. Fishing of several deep-sea species (deeper than 150m) is limited to the eastern and southern coasts, eg. *Aristeus virilis*, *Haliporoides sibogae*, *Hymenopenaeus aequalis*, etc. and sometimes the catch is rather large. More surveys are needed to ascertain whether commercially exploiting the deep waters of the eastern coast is worthwhile, and whether this may perhaps lead to the discovery of additional species for the local marine fauna list.

Recently aquaculture of *Penaeus monodon*, *P. japonicus*, *P. semisulcatus* and *Metapenaeus-ensis* in Taiwan has been well-developed. Moreover, the culturing of *Penaeus penicillatus* has also started, whereas aquaculture and food processing studies of other penaeoid prawns are being enthusiastically undertaken at Fisheries Institutes, Marine Laboratories and Universities. The authors sincerely hope that this book can be an aid for workers in those relevant fields.

The descriptions are written in both Chinese and English, and it is intended that this volume should attract the interest of local and foreign workers.

Most of the species described are illustrated by one or more clear colour photographs, while line drawings are provided of several rare species of which fresh specimens suitable for colour illustration are difficult to obtain. Furthermore, a simplified key to accompany the drawings is included as a guide for readers to identify the families, genera and individual species.

目　次/Contents

A Check List of the Taiwan Penaeoid Prawns

Phylum Arthropoda 節肢動物門
Superclass Crustacea 甲殼上綱
Class Malacostraca 軟甲綱
Order Decapoda 十足目
Suborder Dendrobranchiata 根鰓亞目
Infraorder Penaeidea 對蝦下目
Superfamily Penaeoidea 對蝦上科

Family Aristaeidae Wood-Mason, 1891 長鬚蝦科

Genus *Aristeomorpha* Wood-Mason, 1891 擬鬚蝦屬

A. foliacea (Risso, 1827) 葉狀擬鬚蝦

Genus *Aristeus* Duvernoy, 1840 鬚蝦屬

A. virilis (Bate, 1881) 雄壯鬚蝦

Family Sicyoniidae Ortmann, 1898 單肢蝦科

Genus *Sicyonia* A. Milne-Edwards, 1830 單肢蝦屬

S. curvirostris Balss, 1913 彎角單肢蝦
S. longicauda Rathbun, 1906 長尾單肢蝦
S. cristata (De Haan, 1844) 冠額單肢蝦
S. japonica Balss, 1914 日本單肢蝦
S. formosa Chan and Yu, 1985 台灣單肢蝦

Family Solenoceridae Wood-Mason, 1891 管鞭蝦科

Genus *Solenocera* Lucas, 1849 管鞭蝦屬

S. crassicornis (H. Milne-Edwards, 1837) 粗角管鞭蝦
S. choprai Nataraj, 1945 隆脊管鞭蝦
S. melantho De Man, 1907 憂鬱管鞭蝦
S. brevipes Kubo, 1949 細小管鞭蝦
S. koelbeli De Man, 1911 凹陷管鞭蝦
S. pectinata (Bate, 1888) 梳齒管鞭蝦

Genus *Mesopenaeus* Perez' Farfante, 1977 間對蝦屬

M. mariae Perez' Farfante and Ivanov, 1982 刺足間對蝦

Genus *Haliporoides* Stebbing, 1915 擬海蝦屬

H. sibogae (De Man, 1907) 東方擬海蝦

Genus *Hymenopenaeus* Smith, 1882 膜對蝦屬

H. aequalis (Bate, 1888) 等似膜對蝦

Family Penaeidae Rafinesque, 1815 對蝦科

Genus *Penaeus* Weber, 1795 對蝦屬

P. canaliculatus (Oliver, 1811) 溝甲對蝦
P. marginatus Randall, 1840 邊脊對蝦
P. longistylus Kubo, 1943 長枝對蝦
P. japonicus Bate, 1888 日本對蝦
P. latisulcatus Kishinouye, 1896 寬溝對蝦
P. semisulcatus De Haan, 1844 短溝對蝦
P. monodon Fabricius, 1798 草對蝦
P. penicillatus Alcock, 1905 多毛對蝦
P. chinensis (Osbeck, 1765) 中華對蝦

Genus *Penaeopsis* Bate, 1881 擬對蝦屬

P. rectacuta (Bate, 1888) 三刺擬對蝦
P. eduardoi Perez' Farfante, 1977 雙刺擬對蝦

Genus *Parapenaeus* Smith, 1885 側對蝦屬

P. longipes Alcock, 1905 長足側對蝦
P. investigatoris Alcock and Anderson, 1898 短角側對蝦
P. fissurus (Bate, 1888) 長縫側對蝦
P. lanceolatus Kubo, 1949 矛形側對蝦
P. sextuberculatus Kubo, 1949 六突側對蝦

Genus *Atypopenaeus* Alcock, 1905 異對蝦屬

A. stenodactylus (Stimpson, 1860) 細指異對蝦

Genus *Parapenaeopsis* Alcock, 1901 彷對蝦屬

P. cornuta (Kishinouye, 1900) 角突彷對蝦
P. hardwickii (Miers, 1878) 長角彷對蝦
P. tenella (Bate, 1888) 細巧彷對蝦
? *P. sculptilis* (Heller, 1862) 雕刻彷對蝦

Genus *Metapenaeus* Wood-Masos and Alcock, 1891 新對蝦屬

M. tenuipes Kubo, 1949 通透新對蝦
M. intermedius (Kishinouye, 1900) 中型新對蝦
M. joyneri (Miers, 1880) 周氏新對蝦
M. moyebi (Kishinouye, 1896) 滑殼新對蝦

M. ensis (De Haan, 1844) 劍角新對蝦
M. affinis (H. Milne-Edwards, 1837) 近緣新對蝦

Genus *Metapenaeopsis* Bouvier, 1905 赤對蝦屬

M. palmensis (Haswell, 1879) 婆羅門赤對蝦
M. dura Kubo, 1949 硬殼赤對蝦
M. barbata (De Haan, 1844) 鬚赤對蝦
M. acclivis (Rathbun, 1902) 脊赤對蝦
M. lamellata (De Haan, 1844) 片額赤對蝦
M. andamanensis (Wood-Mason, 1891) 安達曼赤對蝦
M. mogiensis (Rathbun, 1902) 門司赤對蝦
M. dalei (Rathbun, 1902) 戴氏赤對蝦

Genus *Trachypenaeus* Alcock, 1901 鷹爪對蝦屬

T. granulosus (Haswell, 1879) 疣鷹爪對蝦
T. curvirostris (Stimpson, 1860) 彎角鷹爪對蝦
T. anchoralis (Bate, 1881) 錨形鷹爪對蝦