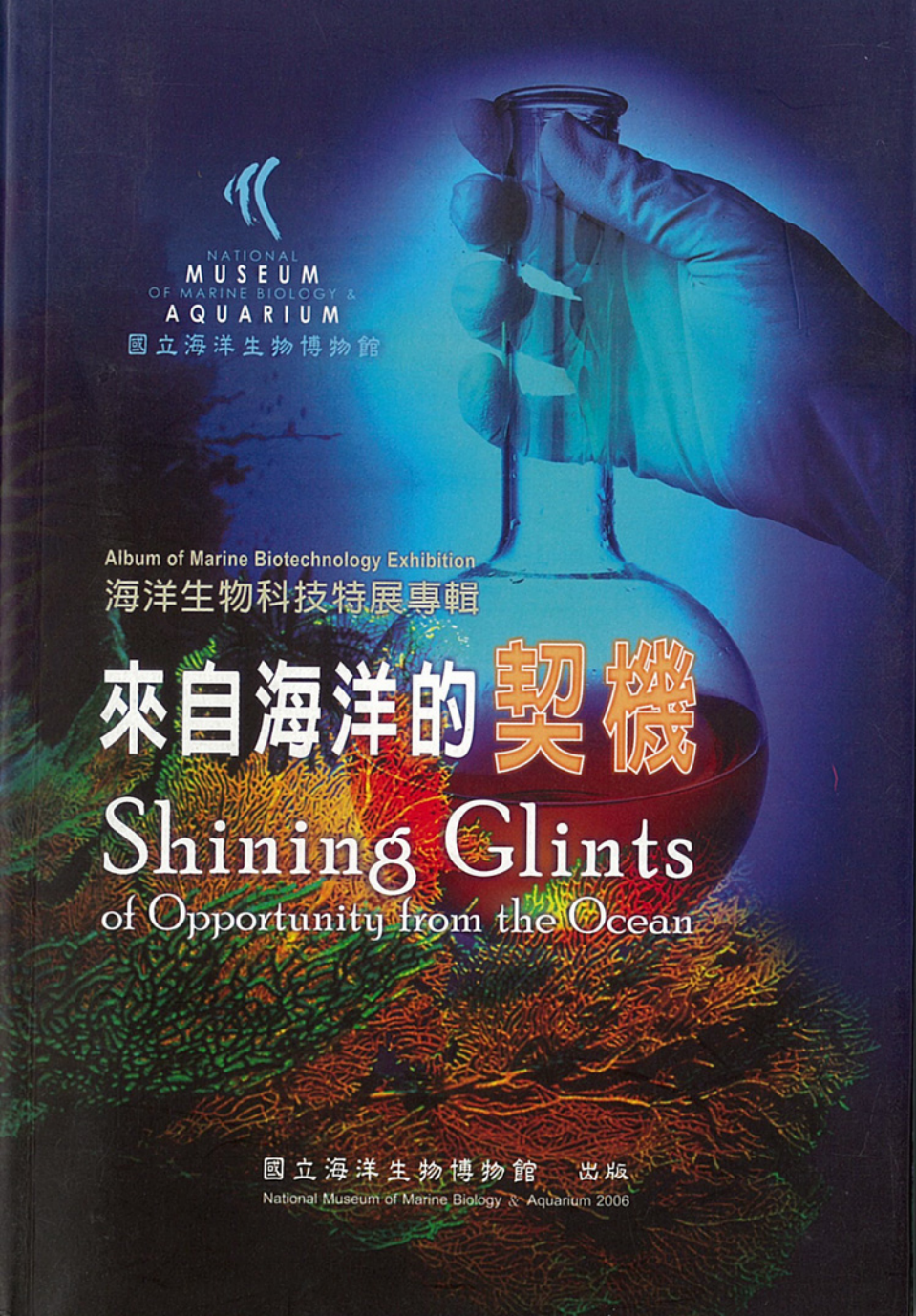
NATIONAL
MUSEUM
OF MARINE BIOLOGY &
AQUARIUM
國立海洋生物博物館
Album of Marine Biotechnology Exhibition
海洋生物科技特展專輯
來自海洋的契機
Shining Glints
of Opportunity from the Ocean
國立海洋生物博物館 出版
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海洋生物科技特展序

館長 王維賢

地球有70%是海洋，而人類對孕育地球生命的海洋，認識十分有限。在浩瀚無涯的海洋中，富含充沛的資源，但為人所廣泛利用者，不及千萬分之一。本館自推動成立以來，即致力於研究海洋生物，近年來並將研究成果轉移至應用科學的範疇，希望能將研究具體造福民眾。

今年7月，本館參加假台北世貿中心舉辦之「生物科技展」，研究內容及成果獲得廣大的迴響。然展示對象僅限於相關產業之人士。為了讓枯燥的研究走出學術殿堂，貼近一般大眾的認知，本館特籌備「海洋生物科技特展」，讓所有來館內參觀的民眾得以一窺海洋資源的世界，諸如「海洋天然物藥妝研究」、「人工培育活珊瑚」、「海洋生物科技」，活化精彩的展出內容，絕對讓民眾嘆為觀止。

海，可以是洶湧的怒，也可以是湛藍的美。展望未來，本館有信心也有責任，透過源源不絕的研究成果，將海千變萬化的迷人風采，呈現給所有民眾。

Marine Biotechnology Exhibition

Director General *Wei-Hsien Wang*

70% of the earth is ocean, yet human beings know so little about this earth which nourishes us. There are a multitude of resources in our boundless oceans, but less than one in ten million of it is used by us. Since the NMMBA was established, we have devoted ourselves to the research of marine life, and have applied our research results in recent years in the hope of benefiting everyone.

This July our center hosted a Biotechnology Exhibition in the Taipei World Trade Center. We have received a lot of feedback about our research. To avoid portraying the research as boring and inaccessible, we especially organized a Marine Biotechnology Exhibition for the general public, in order to provide a closer look at the enthralling world of marine resources, like Marine Products: Cosmeceuticals Research. It was a real eye-opener for the public.

The 'Ocean' can symbolize a surging anger, or the beauty of the blue depths. The NNMBA has faith that looking to the future, we can represent the ocean in a thousand different ways to you and fascinate you with our never-ending research.

點燃海洋中的新經濟

館長 方力行
(2000.02~2006.08)

台灣四面環海，東側緊鄰著全球第一大洋－太平洋，西側是台灣海峽，乃為海洋資源豐富的島嶼，最適合發展海洋生物科技的區域。而海生館佔地利與資源之便，更希望經由上、中、下游之垂直整合，連結點、線、面擴大發展，主導台灣海洋生物科技的發展，成為海洋醫藥生技領域的新經濟火車頭。

因此，近年來，在高科技且優質的海洋生物科技體系中，海洋生物博物館以多元種類的研究計畫，領導整個海洋生物科技的未來走向，創造一個全新的海洋生物供應體系，拓展海洋中的潛在經濟效益。不但漸漸揭開海洋生物在科學上的神秘面紗，更將研究計劃拓展到商業應用的領域，達到多方獲利的最終目標。

事實上，海洋生物科技並不「科幻」，更有許多早已應用在我們的生活中，以海洋天然物來說，除了藥物、生物檢測等醫學價值之外，更已經被廣泛運用於醫學美容這個領域上，目前海生館也已將源自於海洋中的有效成份成功的商品化，推出第一項抗皺保養品。正如海洋生態學家梭羅曾經說過：「在野性中蘊藏著世界。」讓我們一起努力揭開這個面紗，並學習如何與大自然共存，點燃海洋中的新經濟，並讓自然循環生生不息。

Highlighting the New Marine Economics

Director General ***Lee-Shing Fang***
(2000.02~2006.08)

Taiwan is surrounded by seas. With the world's biggest ocean, the Pacific, on its east and Taiwan Strait on its west, Taiwan has abundant marine resources and is naturally a focal point in the development of marine biotechnology. The NMMBA has the advantages of its prime location and plentiful resources to dominate the field of marine biotechnology in Taiwan, and become a leader of marine medical biotechnology.

Over the last few years, operating within the field of advanced marine biotechnology, the NMMBA has provided direction for the future of marine biotechnology through its diverse research projects and has created a brand-new resource area, thus expanding the potential economic value of ocean. Discovering the scientific secrets of marine life in order to apply the research projects for commercial use to everyone's benefit has been its ultimate goal.

Actually biotechnological marine products are not just a dream for the distant future. We not only benefit from medical research and medicines derived from natural marine products, but also commonly use cosmetics with marine ingredients. The NMMBA has also successfully turned ingredients from the ocean into effective products. An anti-wrinkle skin care product was the first one. As Henry David Thoreau once said, "In wildness is the preservation of the world'. Let's discover and learn how to live peacefully with Mother Nature. Let's light up the new field of marine economics and ensure that nature wins through.

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創造產、官、學三贏的海洋科技

創新育成中心

國立海洋生物博物館是我國目前唯一的專業海洋生物研究機構，除了優異的天然條件之外，更在研發上具有「研究設備新穎」、「專門技術與研究人員編制完整」、「坐擁墾丁熱帶海域」、「擁有大量活體魚類」、「經費與資源來源固定」、「知名度高形象優」…等軟硬體優勢，現更結合民間資金，以市場與客戶需求為導向，在既有海洋生命科學研究基礎之下，帶動相關產業研發，並致力於將研究成果商品化，共同發展台灣特有海洋生物科技產業。

而育成中心也正站在一個戰略位置，協助推廣技術與專利密集的海洋產業，目前也小有所成，無論在海洋天然物、人工培育活珊瑚、黑鮪繁養殖、高經濟大型海藻培育、海水觀賞魚繁養殖…等協助研究單位推動技術、專利或商品化，都走在世界之前，搶先研發。

除此之外，對育成中心來說，研發與保育的方向是齊頭並進的。除了發展海洋生物科技，滿足人類對海洋生物的新需求外，每年更透過展覽、手冊等教育資料與活動的推展，強調生態保育的重要性，確實從基礎的教育觀念開始紮根，建立起生活與海洋資源的關連性。當然也會不斷持續推動不同主題的研發，達到產業提升、學術研究自然資源開發及保育的三贏效果。

Creating marine technology for industry, government and academia; a three way winner

Incubation Center

The NMMBA is the only professional marine life research organization in Taiwan. Apart from its excellent locale in the Kenting tropical sea area, it also boasts the latest research equipment, full professional technology and research personnel structures, it's well known and has much positive publicity. Now with private funding, we can focus on the needs of both markets and customers. We are dedicated to commercializing our achievements and developing a unique marine biotechnology industry in aiwan.

The Incubation Center is also in a strategic position to assist in popularizing technology and promoting the patenting of technology in the marine industry. It provides aid in advancing techniques, patents and commercialization in various areas like "Marine Nature Products", "Cultivated Corals", "Cultivation of Blue Fin Tuna" etc. and is advancing ahead of the rest of the world.

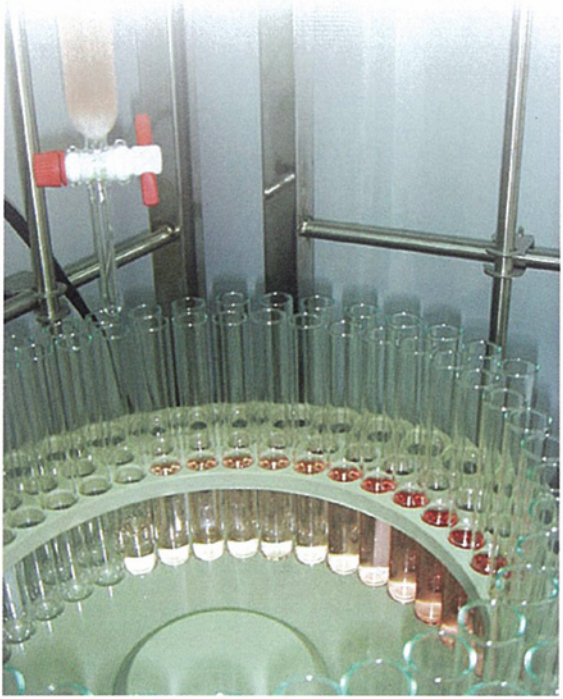
For the Incubation Center, research and development, and marine protection are moving forward in unison. Apart from developing marine biotechnology to satisfy new demands on the marine environment, every year we host exhibitions, carry out different themed activities, distribute educational materials and emphasizes the importance of ecological protection and development in the hope of benefiting everyone.

1

來自湛藍的美麗魔法

海洋天然藥妝研究

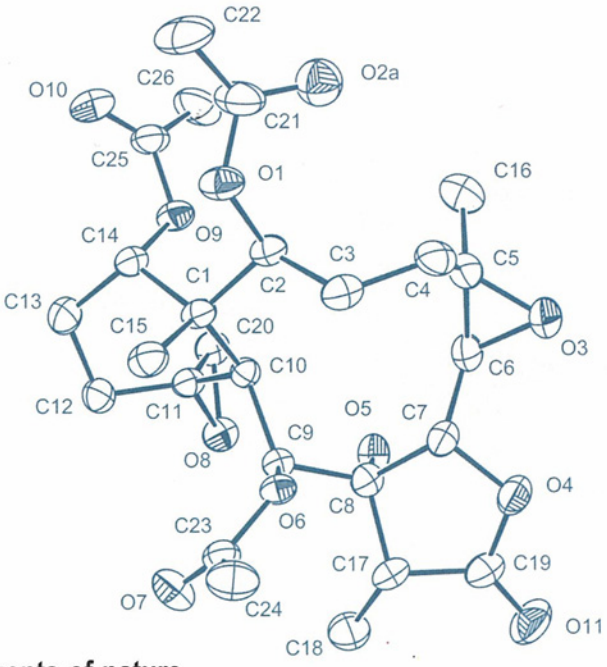
是國內第一，也是唯一，
海生館擁有萃取海洋天然物配方的能力，
更成功的推出保養品，
跨出海洋天然物商品化的第一步。
目前已知具備生物活性的海洋天然物還有上百種，
海生館會繼續開發來自湛藍的美麗魔法，
讓海洋與你更接近！



天然物成分，提供龐大的化學資料庫

長期以來，天然物在人類生活機能的應用上即扮演著相當重要的角色，而從自然界的動、植物及微生物中提取具有顯著生理活性的二次代謝物，以做為發展治療疾病醫療用藥為基礎的研究，更已有長久的歷史。如目前在醫藥界較為常用的150種處方藥中即有 57% 的藥物，其根源性是起自於天然化合物，而此種比例在抗癌與抗傳染性疾病用藥(anticancer and antiinfective agents)方面，則更超過60%。

除此之外，新天然化合物的不斷被發現及其在結構上的多樣性(structural diversity)也相對的提供了在藥物研發上極為龐大且新穎的化學資料庫來源。



Constituents of nature offer enormous chemical database

For a long time nature has played a important role in our lives. We also have a long history in extracting secondary metabolites from animals, plants and microorganisms as the foundation for research into developing medicine to treat disease; out of 150 kinds of commonly prescribed medicines, 57% have their origin in naturally occurring chemical compounds. This figure even surpasses 60% in anticancer and anti-infective agents.

In addition, new naturally occurring chemical compounds are constantly being discovered and their structural diversities also provide an enormous chemistry data base for medical research.