



珊瑚的類別

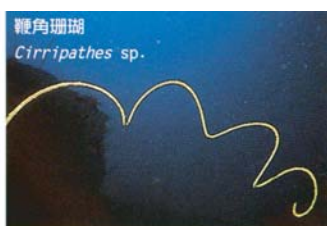
珊瑚是指一群能夠堆積鈣質骨骼或骨針的腔腸動物。在分類上，包括六放珊瑚、八放珊瑚和水螅珊瑚等三大類，六放珊瑚具有十二隻以上的觸手，而且是六的倍數；八放珊瑚只具有八隻觸手，水螅珊瑚的珊瑚蟲很小，觸手幾乎無法分辨。在生態上，我們通常把珊瑚分為石珊瑚、軟珊瑚和柳珊瑚等三大類。

石珊瑚是指具有石頭堅硬骨骼的種類，包括軸孔珊瑚、表孔珊瑚、鹿角珊瑚、菊珊瑚、腦紋珊瑚 等，牠們大多含有共藻，能夠進行鈣化作用，建造珊瑚礁；大多數的六放珊瑚都屬於這一類。石珊瑚的種類繁多，有的形成枝桠交錯的分枝狀；有的分枝密集或癒合，成為平坦的桌面；有的呈團塊形或半球形，群體表面還有各種奇特的花紋；有的呈葉片狀，如瓦片一般層層相疊；有的則如一層表皮，賢覆在礁石表面。

軟珊瑚的身體柔軟，由肉質組織構成，體內具有許多細小的骨針，零散地分布在組織內，包括肉質軟珊瑚、葉形軟珊瑚、指形軟珊瑚 等。軟珊瑚的群體具有許多美麗的外形，有的似盛開的花朵，有的呈蕈狀，具有明顯的盤部和注部；有的像皇冠，表面有一環環粗短的手指狀突起；有的具有許多細長的分枝，隨流擺動，搖曳生姿。大片的軟珊瑚覆蓋在海底時，則有如美麗的絲絨地毯，讓人駐足流連。

柳珊瑚是另一類八放珊瑚，牠們的群體形態千變萬化，外形呈扇狀、樹叢狀或長鞭狀，包括扇珊瑚、軟柳珊瑚、鞭珊瑚 等。柳珊瑚的群體具有由角質素構成的中軸骨骼，柔軟而強韌，牠們通常生物在礁石邊緣或峽溝壁上，群體呈平面伸展的海扇，常常與海流的方向垂直，以最大的表面積迎接海流，以攔截海水中的浮游生物為食。

墾丁國家公園海域內有250種石珊瑚，50種軟珊瑚30種以上的柳珊瑚。牠們具有千變萬化的造形和鮮艷美麗的色彩，廣泛分布在沿岸水深三十公尺以內的淺海，共同建造雄偉壯麗、各具獨特風貌的珊瑚礁，也吸引成千上萬的海洋生物在珊瑚礁中繁衍生長。



Coral Varieties

Coral are a group of coelenterates that can accumulate calcium carbonate skeletons. Based on the differences between coral polyps, they are often classified into three groups: hexacorals, octacorals and hydrocorals. Hexacorals usually have more than twelve tentacles and always number in multiples of six, while octacorals always have eight pinnate tentacles. Polyps of hydrocorals are minute with inconspicuous tentacles. People often name corals according to their shape: stony coral, soft corals, and gorgonians.

Most stony corals possessing rigid skeletons contain numerous symbiotic algae that assist in the calcification process and in reef building; a majority of hexacorals belong to this category. Stony corals come in many fanciful shapes; some with delicate branches, some with stout branches, some with fused branches. Others are foliaceous with overlapping leaves and some look like thin layers of skin tightly stretched over reef surfaces, while still others are spherical or semi-spherical with peculiar markings on their surfaces.

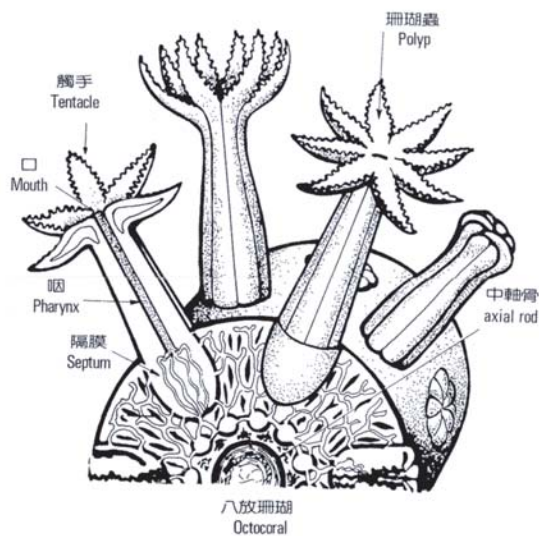
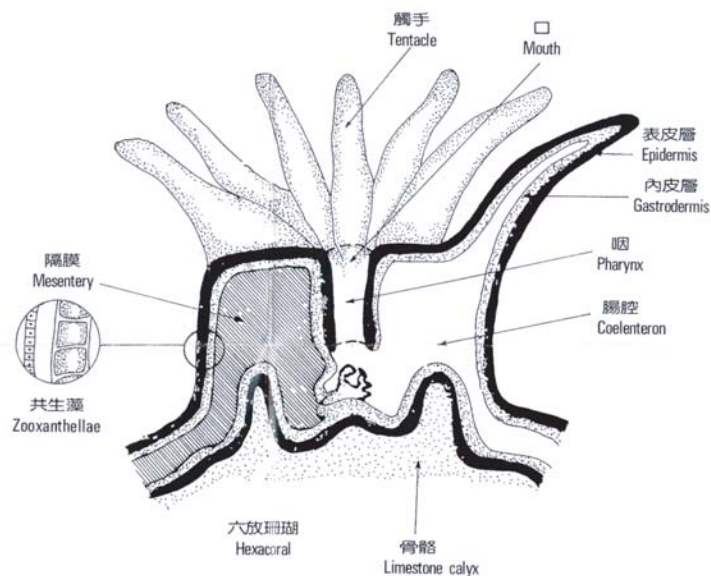
Soft corals are a group of octacorals with fleshy and soft colonies. They are among the most beautiful organisms on coral reefs because of their gracefulness. Soft corals are supported by microscopic spicules distributed throughout their tissues. Their colonies have many beautiful forms: some look like flowers in full bloom; some like mushrooms with distinctive caps and stalks; some look like studded crowns; while others many have fine willowy branches that sway with the flow of the current, invoking the image of a graceful dancer, lithe and nimble. When soft corals cover an expansive area of the ocean floor, the entire area becomes a plush and luxurious velvet carpet that entices one to linger a while longer.

Gorgonians are a group of octacorals that display diverse colony shapes: some are fan-shaped, some look like groves of trees, some groves of trees, some long whips; thus, they are popularly known as sea fans, sea whips, etc. gorgonian colonies are also soft, but their gorgonian axial skeletons lend them some stiffness as well. Gorgonians prefer to live on the outer fringes of reef rocks or on the walls of channels. The stretched plane of a fan-shaped colony often lies perpendicular to the current so as to maximize surface-to-water contact; in this way it increases opportunities to catch plankton for food from the water.

The marine province of Kenting National Park hosts over 250 species of scleractinian corals, more than 50 species of alcyonacean corals, and over 30 species of gorgonacean corals. These corals are distributed over the expansive sea area to form widely diverse coral communities and create a resplendently thriving underwater world.

珊瑚結構圖

Structure of coral polyps



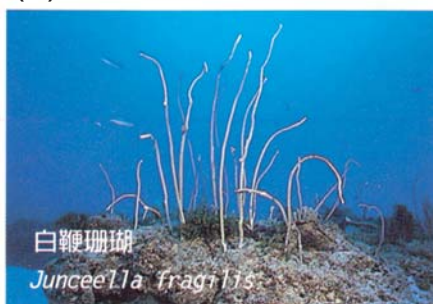
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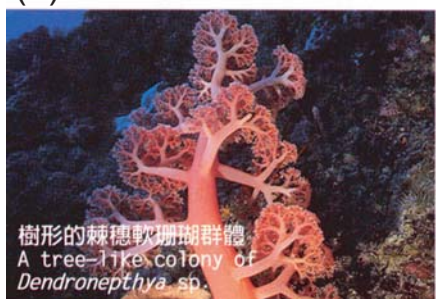
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(6)



(7)



(8)

(1) 簡單葉形軟珊瑚群體
A colony of *Lobophytum pauciflorum*

(2) 軟木軟柳珊瑚
Subergorgia suberosa

(3) 紅扇珊瑚
Melithaea ochracea

(4) 白鞭珊瑚
Junceella fragilis

(5) 強韌鞭珊瑚
Ellisella robusta

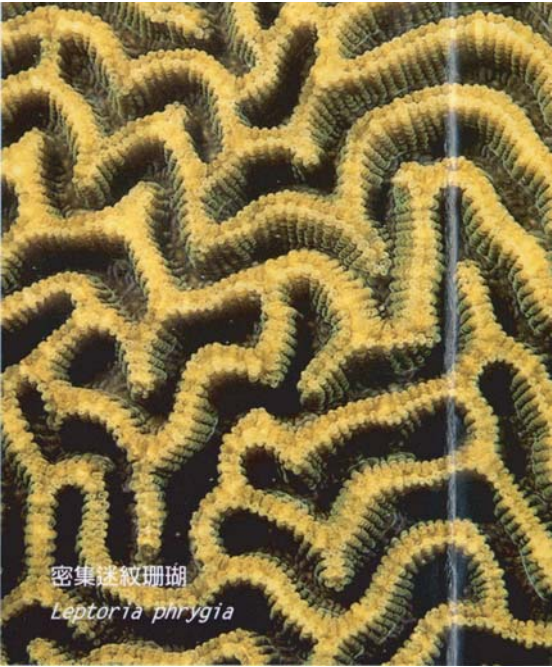
(6) 肉質軟珊瑚
Sarcophyton sp.

(7) 樹形的棘穗軟珊瑚群體
A tree-like colony of *Dendronephthya* sp.

(8) 直立穗珊瑚
The soft coral, *Nephthea erecta*



石珊瑚和軟珊瑚
Stony corals and soft corals



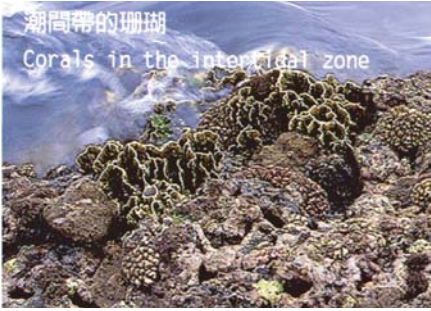
密集迷紋珊瑚
Leptoria phrygia



菊珊瑚
Fayia sp.



圓管星珊瑚
Tubastraea sp.



潮間帶的珊瑚
Corals in the intertidal zone



內政部營建署墾丁國家公園管理處
Kenting National Park Headquarters
屏東縣恆春鎮墾丁路596號



珊瑚礁生態系

珊瑚礁常被稱為「海中熱帶雨林」，它是地球上生物多樣性最高、生產力最旺盛、生物量最眾多的生態系；各門各類、各式各樣的生物，幾乎都可以在珊瑚礁上找到牠們的蹤跡；多層次的棲息空間和高生產力是珊瑚礁孕育眾多生物的基本條件。墾丁海域擁有1200種以上的魚類、至少1000種的海洋無脊椎動物和130種以上的藻類，是台灣地區海洋生物最豐富的海域。

珊瑚礁魚類是海中的精靈，牠們的體態變化萬千、色彩鮮艷奪目、又具有美妙的舞姿和精巧的形態，穿梭在珊瑚礁之上，為珊瑚礁生態系增添許多動態美。

各式各樣的螺類、海蛞蝓、雙殼貝和頭足類是珊瑚礁軟體動物的代表。蝦子和螃蟹則是甲殼動物的代表，牠們有的棲住於珊瑚礁洞穴中，有的以珊瑚分枝為家，有的則發展出親密的共生關係。棘皮動物包括海百合、海星、海膽、海參和陽遂足等，都是典型的珊瑚礁海洋生物，牠們只生活在海洋中。海綿和管蟲也是珊瑚礁上不可或缺的生物，各形各類的海洋生物在珊瑚礁上共存共榮，把珊瑚礁妝點成美麗的海底花園。

為何要保護珊瑚礁？

珊瑚礁是海洋中的重要生態系，它對維持沿海地區的經濟發展和全球生態平衡都具有重要貢獻。珊瑚礁是許多經濟性魚、蝦、蟹、貝類的生產地和繁殖場，許多珊瑚礁生物體內含有豐富的天然藥物，可以用來治療疾病，珊瑚建造的礁體能夠保護海岸，防止海岸侵蝕，化石珊瑚礁則是建築材料的來源，珊瑚礁的美麗景觀更是無價的觀光資源。



Coral Reef Ecosystem

Coral reefs are often regarded as "the tropical rain forest of the sea." The main reason is that they contain tremendous diversity and abundance of sea life. Almost all sorts of organisms can be found on coral reefs. From the most structurally simple bacteria and single-celled organisms to the most advanced mammals, all exist in the reef ecosystem. The spatial complexity and high primary productivity of coral reefs are the main reasons that they support numerous organisms.

The sea around Kenting National Park, teeming with over 1,200 species of reef fish, more than 1,000 species of invertebrates, and over 130 species of seaweed makes it the richest area along Taiwan's coast in terms of marine biodiversity.

Coral reef fish are the sprites of the sea. They enrich the ocean's world of life and permeate the reef with dynamic beauty with their kaleidoscope of colors, their exquisite patterns, and beautiful, dance-like movements.

Mollusks including gastropods, bivalves, and cephalopods are common residents on coral reefs. Many mollusks are important sources of food for mankind, and shellfish are often used as ornaments or for handicrafts. Shellfish of the coral reef have especially beautiful markings and are widely prized by collectors. Crustaceans including shrimps, spiny lobsters, crabs, hermit crabs and barnacles are also common reef residents. They are widely distributed in various marine habitats, with many species of diverse sizes, shapes and lifestyles. The majority of commonly seen crustaceans rest in caves or crevices in the coral reef or on the bodies of other creatures. Echinoderms are widely distributed and abundant reef animals. They are typical representatives of sea life and can only be found in the sea. Their morphology is extremely diverse, including crinoids, starfish, brittle stars, sea urchins, and holothurians.

Sessile organisms including sponges, tube worms, bryozoans, and ascidians are also common reef organisms. Together they constitute coral reefs the most magnificent underwater garden.



珠鍊海星是一種美麗的海星
The starfish, *Fromia molinis*.



鰻鯰的幼魚聚集成團狀，俗稱鰻球
The striped catfish (*Pilotus lineatus*) schools so tightly when young, it is called a "catfish ball"

The Importance of Coral Reefs

The coral reefs represent an important resource, both in terms of biological diversity and with respect to the well-being of the people. Coral reefs perform many functions. They are important fishing ground and nursery ground for many commercially valuable fishery resources such as fish, shrimps, crabs, and shellfish. Many reef organisms contain natural products which are important pharmaceutical resources. At present over a hundred types of natural chemicals have been isolated from corals and other reef organisms, and a great number of chemicals are still left to be discovered. Coral can not only accumulate limestone and create land, but they also protect the coastline, and stabilize the substrata. This is extremely important to the water and soil protection of the coast. The limestone accumulated by corals is an important building material to the construction industry. In addition, the spectacular scenery of reefs and myriad shapes of corals are truly priceless recreation resource

You Can Help Protect Coral Reefs !

- 1. Do not disturb, destroy or collect corals and other marine organisms.
- 2. Respect the living right of reef organisms. Do not rear, buy or eat reef organisms.
- 3. Do not pollute marine environment protect marine environment.
- 4. To support coral reef conservation activities and secure the sustainable development of coral reefs.



如何保護珊瑚礁？

- 1 不傷害、不破壞、不採集珊瑚及其他海洋生物。
- 2 尊重海洋生物的生存權，不飼養、不購買、不食用海洋生物。
- 3 維護海洋生態環境，不製造污染、不丟棄垃圾。
- 4 支持珊瑚礁保育活動，促進珊瑚礁永續發。