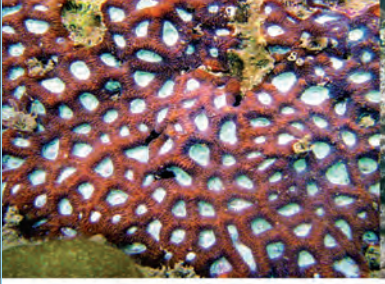


Favites abdita 秘密角蜂巢珊瑚

Echinophyllia aspera 粗糙刺葉珊瑚

Montipora peltiformis 翼形薔薇珊瑚

Acropora solitaryensis 單獨鹿角珊瑚

Goniopora columna 柱角孔珊瑚

Stylocoeniella guentheri 暈柱群珊瑚

Lithophyllon undulatum 波形石葉珊瑚

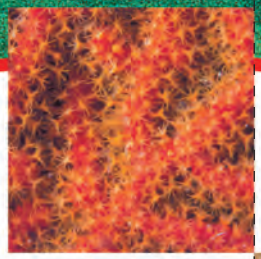
Pavona decussata 十字牡丹珊瑚

漁農自然護理署 二零一四年三月
Agriculture, Fisheries and Conservation Department
March 2014

Conserve Hong Kong Corals

保護香港珊瑚

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

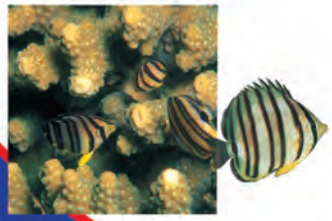


甚麼是珊瑚？

珊瑚是固著的動物，屬刺胞動物門，當中也包括水母、水螅、軟珊瑚、海葵等動物。珊瑚由很多珊瑚蟲造成。每一珊瑚蟲都有一個中空而底部密封的柱形身體，牠的腸腔與四周的珊瑚蟲連接，而位於身體中央的口部，四周長滿觸手。我們通常把珊瑚分為石珊瑚、八放珊瑚（包括：軟珊瑚、柳珊瑚、藍珊瑚、笙珊瑚及海筆）及水螅珊瑚，牠們有不同的形態特徵。除了生物學分類外，我們亦可按生態功能，把珊瑚分為兩大組。那些有共生藻（即蟲黃藻）的珊瑚稱為可造礁珊瑚，而那些沒有共生藻的則稱為不可造礁珊瑚。

有關珊瑚的生物學及生態的資料，請參閱以下網站：

www.afcd.gov.hk/tc_chi/conservation/con_mar/con_mar_cor/con_mar_cor.html



What is a coral?

Corals are sessile animals, belonging to Phylum Cnidaria which also includes an enormous range of jellyfish, hydroids, soft corals, anemones and many others. Each coral colony is made up of many individual coral animals, called polyps. Each polyp is essentially a hollow cylinder, closed at the base and interconnected to its neighbours by the gut cavity. The polyps have one or more rings of tentacles surrounding central mouth. We usually classify corals into stony corals, octocorals (including soft coral, gorgonian, blue coral, organ-pipe coral and sea pen) and hydrocorals, each type with different morphological characteristics and highly variable forms. Other than taxonomic classification, corals can be divided into two ecological groups. Corals that contain symbiotic algae, zooxanthellae, are referred to as hermatypic or reef-building corals, while those that do not are called ahermatypic or non-reef-building corals.

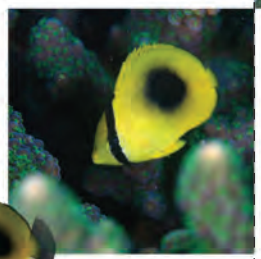
More information on biology and ecology of corals is available at the following website:

www.afcd.gov.hk/english/conservation/con_mar/con_mar_cor/con_mar_cor.html

香港的珊瑚

香港位於印度太平洋熱帶地區的北面邊緣，故沒有珊瑚礁。生活在香港的珊瑚直接附生在岩石和石床上，沿岸形成零散的珊瑚群落。因為冬天氣溫太低，故石珊瑚群落大多位於潮下帶，很少會在潮間帶生長。珊瑚常見於水深1至3米，很少生長在水深超過10米的地方。

零散的珊瑚群落散佈在香港及離島的淺水岩石岸。香港東邊水域有天然屏障保護，而且不會受珠江淡水流影響，所以孕育了豐富的珊瑚群落。雖然西面水域受珠江淡水流影響，而且水質比較混濁，但仍可找到零散的石珊瑚群落，如在索罟群島一帶。中部水域是一過渡地帶，因為人口密集，水質較差，不大適合珊瑚生長。



Hong Kong corals

Located at the northern edge of the tropical indo-Pacific region, neither giant calcium carbonate framework nor true reef structure can be found in Hong Kong waters. Corals in Hong Kong usually attach directly onto boulders and bedrock and form scattered fringing coral communities along the coast. They assemble into small sub-tidal reefs but rarely form intertidal colonies because the winter air temperature is low enough to kill the exposed corals. Due to turbidity, the greatest aboundance of stony corals is found at about -1 to -3M C.D. in depth and rarely extend to more than -10M C.D.

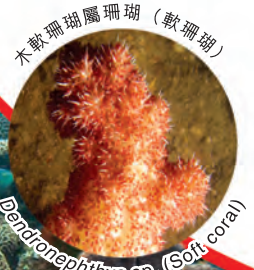
Isolated coral colonies can be found from shallow waters of the rocky shores around Hong Kong's outlying islands and mainland. The richest coral communities prevail to the east of Hong Kong where waters are free from the influence of Pearl River and sheltered. Although the western waters are estuarine and turbid, scattered stony coral communities have also been recorded in the area, such as Soko Islands. The central region is a transition of the western estuarine and the eastern oceanic zones. However, because of the general unsuitable water quality in that area, few stony corals can survive there.

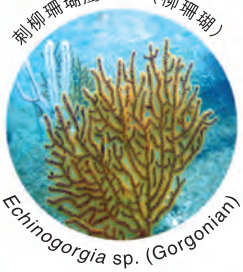
香港有多少種石珊瑚？

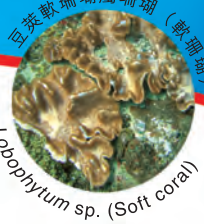
在印度太平洋熱帶地區，一個珊瑚礁已有超過200種的石珊瑚，有些甚至有300至400種之多。因為本地氣候、水文情況及其他人為因素，香港只有來自28個屬84種造礁珊瑚品種。這些珊瑚品種能抵受年中海水溫度及鹹度的大幅變化，也可抵受不時吹襲的颱風。牠們主要是表覆形或團塊形的蜂巢珊瑚及濱珊瑚。

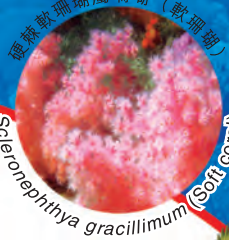
香港有其他種類的珊瑚嗎？

除了石珊瑚之外，香港還有軟珊瑚、柳珊瑚、黑珊瑚和海筆等，最少有來自14個屬的29種軟珊瑚已被辨認及記錄。此外，香港有19個屬38種柳珊瑚，大多生長在鹹度變化較小的東面水域，牠們需要固著在堅穩的基質上，最喜歡生長在水深20至25米的地方。目前香港錄得有2個屬的6種黑珊瑚，牠們大多生長在東北水域水深10至20米的地方。









How many species of stony coarals are found in Hong Kong waters?

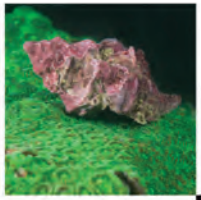
In the heart of the tropical Indo-Pacific, there are over 200 species of stony corals on a single reef. Some sites may house as many as 300 to 400 species of stony corals. Under the influence of local weather, hydrological conditions and anthropogenic perturbations, Hong Kong supports only 84 species of reef-building corals from 28 genera. Those coral species can tolerate wide annual fluctuations in water temperature and salinity as well as periodic typhoons and monsoons. The dominant species of reef-building corals are mainly encrusting or massive faviids and poritids.

What is the diversity of other corals in Hong Kong?

In addition to stony corals, soft corals, gorgonians, black corals and sea pens are aslo found in Hong Kong water. 29 species of soft corals from 14 genera have been recorded. In addition, there are 38 species of gorgonians from 19 genera found in Hong Kong waters. Gorgonians prevail in the eastern waters of less variable salinity. They require a firm substratum for anchorage and reach maximum abundance at about 20-25M deep. Six species of black corals from 2 genera have been recorded in Hong Kong waters. Most of them are found in the north-eastern waters at a depth of 10-20M.

香港珊瑚群落的海洋生物

雖然香港沒有珊瑚礁，但大型珊瑚群落一樣可提供棲所、屏障及基質給其他生物附著及生長。與珊瑚礁一樣，大型珊瑚群落的初級生產力很高，能夠提供充裕的食物給眾多生物。依靠珊瑚群落的動物很多，例如海綿、海葵、海星、海膽及珊瑚魚等，棲身珊瑚群落的魚類更多達320種。



Coral-associated marine life of Hong Kong

Although there has no reef structure in Hong Kong, large coral community can provide hiding spaces, shelters and substrata for other organisms to settle and grow. Similar to coral reef, large coral community has also high primary productivity and therefore can provide numerous organisms with aboundant food resources. The coral-associated animals found in Hong Kong are very diverse. Examples are sponge, sea anemone, starfish, sea urchin and reef fish. Some 320 fish species were recorded around local rocky reefs and coral communities.

珊瑚現正受到甚麼威脅？

在香港，甚至世界各地，珊瑚都受到同樣的威脅，包括：

- 船錨破壞
- 沿岸發展
- 濫捕及破壞性捕魚活動
- 污染
- 被過度使用

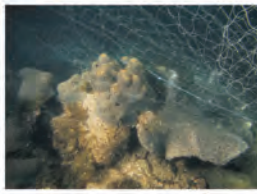
為甚麼我們要保護珊瑚？

- 牠們是許多重要食用魚、蝦、蟹及貝類的產卵場及育苗場。
- 許多珊瑚及珊瑚群落的生物體內含有豐富的天然藥物，可用來治療疾病。
- 珊瑚不僅能製造石灰及海灘，沿岸的群落還可以保護及穩固海岸，防止海岸被風浪侵蝕。
- 雖然香港沒有龐大的珊瑚礁，但珊瑚千變萬化的形狀及其區內多姿多彩的海洋生物，實在是一美麗的景觀，更是無價的觀光資源。

What are the threats to corals?

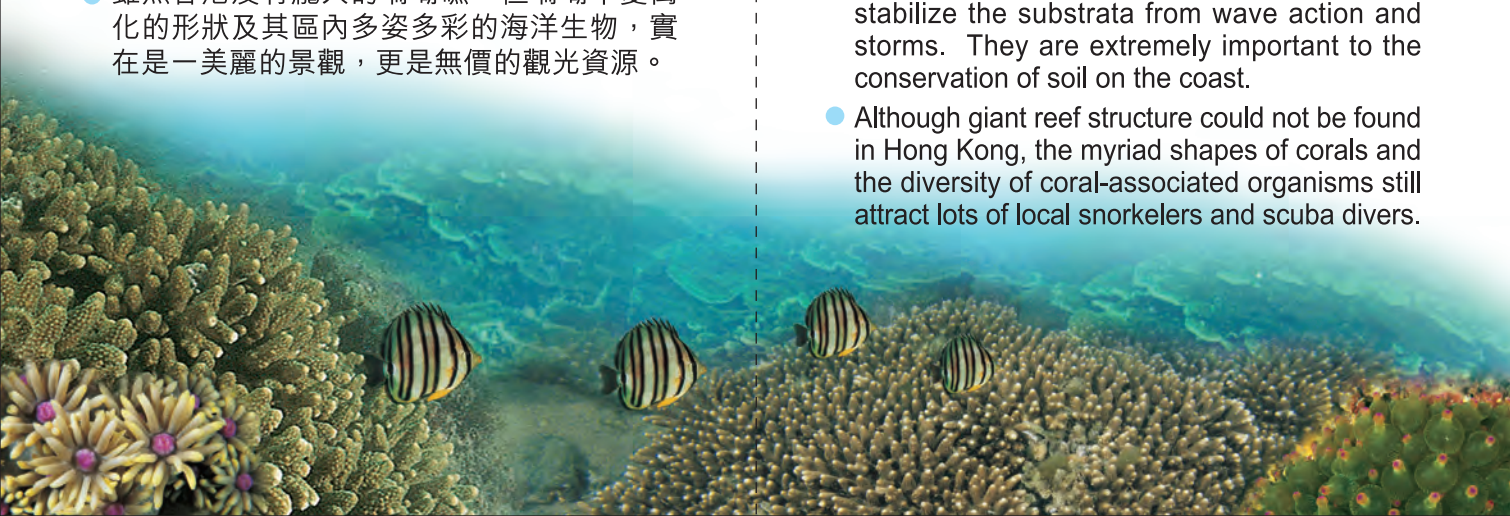
In Hong Kong and other places in the world, corals are threatened by:

- Anchor damage
- Coastal development
- Overexploitation and destructive fishing practices
- Inland and marine-based pollution
- Extensive recreational use



Why do we need to protect corals?

- Local coral communities are important spawning grounds and nursery grounds for many commercially significant fishery resources, such as fish, shrimps, crabs, and shellfish.
- Corals and many coral-associated organisms contain natural products which are important pharmaceutical resources.
- Corals not only deposit limestone and create beaches, but also protect the coastline and stabilize the substrata from wave action and storms. They are extremely important to the conservation of soil on the coast.
- Although giant reef structure could not be found in Hong Kong, the myriad shapes of corals and the diversity of coral-associated organisms still attract lots of local snorkelers and scuba divers.



如何保護珊瑚？

遵守下列指引，有助保護香港珊瑚：

航行及其他船艇活動

- 切勿在珊瑚區域下錨，改在沙質或碎石的海床下錨。
- 如有的話，使用繫泊浮泡。
- 不要放長錨繩或錨鏈，以免船隻拖錨。

沿岸發展

- 施工前測繪有關水域的珊瑚位置和分佈。
- 計劃、管制和監察影響珊瑚區的污水排放和沉積作用。

How to conserve corals?

The following guidelines will help to conserve corals in Hong Kong:

Boating

- Do not anchor in coral areas, choose sandy or rubble seabed instead.
- Use mooring buoys where provided.
- Keep anchoring rope or chain short to avoid dragging.

Coastal development

- Map the location and distribution of corals in the areas of concern prior to commencement of works.
- Plan, control and monitor the sewage discharge and sedimentation affecting coral areas.

潛水員及泳客

- 切勿站在或坐在珊瑚上，或觸摸珊瑚。這類接觸會令活珊瑚組織染病，並會嚴重損毀珊瑚群落。
- 當潛水員調整潛水裝備，應選擇停在沙質或並非珊瑚區的地方，以免破壞珊瑚。
- 到珊瑚區潛水時，應先確定自己能自如地控制浮力才到珊瑚區潛水，這對初學潛水者尤其重要。
- 切勿採集任何珊瑚及海洋生物。這樣做有助保存珊瑚群落的生物多樣化，及確保下次潛水時有良好的水底景色。
- 泳客切勿在靠近海灘的珊瑚上走動，尤其是在退潮時，在珊瑚上走動會嚴重踏毀珊瑚。
- 積極參與和支持香港珊瑚礁普查及海岸／ 水底清潔活動。

漁民

- 切勿使用具破壞性的捕魚方法。
- 切勿在珊瑚區域或其附近用拖網捕魚，拖網的拖拉會嚴重損毀珊瑚或增加珊瑚區域的沉積物，間接影響珊瑚。
- 切勿在珊瑚區域內使用刺網和浸籠。
- 在適當地點處理廢棄魚網和其他垃圾。

市民大眾

- 切勿污染海水及拋棄垃圾。
- 告知朋友和家人，香港的珊瑚群落及情況，從而向他們灌輸保護珊瑚的意識。
- 積極參與和支持保護珊瑚活動。

Divers and swimmers

- Do not stand, sit or touch corals. Such contact exposes live coral tissues to disease and can cause serious damage to coral colonies.
- If adjustment of the diving equipment is needed, choose sandy or non-coral areas for setting and adjustment to avoid coral damage.
- Use good diving practices with adequate control of buoyancy when visiting coral areas. It is especially important that novice divers can control their buoyancy before visiting coral areas.
- Do not collect any corals or marine organisms. This will help to preserve the biodiversity of the coral community and ensure good underwater scenery for your next diving
- Do not walk on corals near beaches especially during low tides as this can cause serious damage to corals.
- Participate annual Hong Kong Reef Check and voluntary beach / seabed clean-up activities.

Fishermen

- Never use destructive fishing methods.
- Do not trawl in coral areas or its vicinity as trawling can cause serious damage to corals and increase sedimentation loading in coral areas.
- Do not deploy gillnets and fish traps in coral areas.
- Dispose abandoned fishing gears and other garbage at appropriate locations.

General public

- Do not dump / discard rubbish into the sea.
- Implant the idea of coral conservation with your friends and families by informing them of the ecological importance of corals in marine ecosystem and the need of coral conservation.
- Participate and support coral conservation activities.

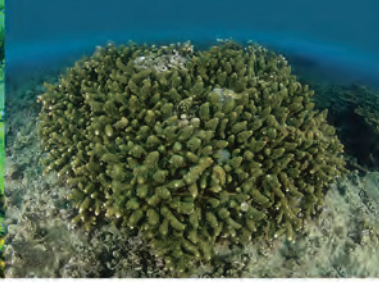
有關保護珊瑚的香港法例
Hong Kong ordinances related to coral conservation

行為 Action	無牌管有下列種類的活生珊瑚 Possess live corals of the following types without license ● 藍珊瑚 Blue Corals (Helioporacea) ● 笙珊瑚 Organ Pipe Corals (Stolonifera) ● 角珊瑚 Black Corals (Antipatharia) ● 石珊瑚 Stony or True Corals (Scleractinia) ● 多孔螅 Fire Corals (Milleporina) ● 柱星螅 Lace Corals (Stylasterina)	未經事先批准，在海岸公園或海岸保護區內採集珊瑚 Collect corals within Marine Parks or Marine Reserve without prior permission.	管有及／或使用毒物或炸藥捕魚 Possess and / or use toxic substances and explosives for fishing.
對珊瑚的影響 Effect on corals	從海底生境取去珊瑚會令到許多海洋生物失去棲息地和攝食生境，兼破壞海底景色。 Remove corals from the underwater habitats which deprive the shelter and feeding habitats of many marine organisms; destroy the underwater scenery.	從海底生境取去珊瑚會令到許多海洋生物失去棲息地和攝食生境，兼破壞海底景色。 Remove corals from the underwater habitats which deprive the shelter and feeding habitats of many marine organisms; destroy the underwater scenery.	使用氰化物捕魚會令珊瑚白化和殺死珊瑚；使用炸藥捕魚會炸碎珊瑚結構。 Use of cyanide fishing will bleach and kill corals. Dynamite fishing can break the structure of coral into pieces.
條例 Ordinance	《保護瀕危動植物物種條例》（第586章） Protection of Endangered Species of Animals and Plants Ordinance (Cap 586)	《海岸公園條例》（第476章） Marine parks Ordinance (Cap 476)	《漁業保護條例》（第171章） Fisheries Protection Ordinance (Cap 171)
最高刑罰 Maximum penalty	罰款500萬港元和監禁兩年 HK$5,000,000 fine and 2 year imprisonment	罰款2.5萬港元和監禁一年 HK$25,000 fine and 1 year imprisonment	罰款20萬港元和監禁六個月 HK$200,000 fine and 6 months imprisonment

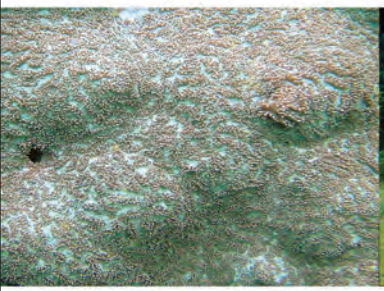
Porites lobata 團塊濱珊瑚

Platygyra acuta 尖邊扁腦珊瑚

Galaxea astreata 稀杯盔形珊瑚

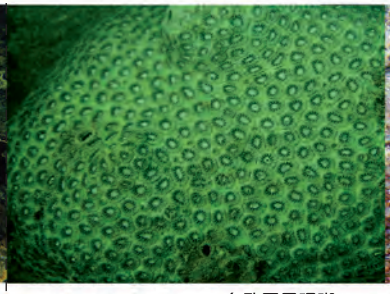


Acropora digitifera 指形鹿角珊瑚

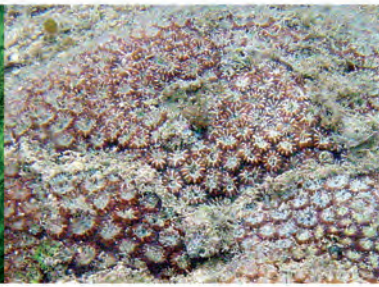


Hydnophora exesa 腐蝕刺柄珊瑚

Turbinaria peltata 盾形陀螺珊瑚



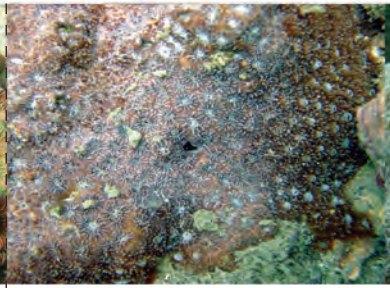
Plesiastrea versipora 多孔同星珊瑚



Oulastrea crispata 捲曲黑星珊瑚

Favites flexuosa 多彎角蜂巢珊瑚

Favia rotumana 羅圖馬蜂巢珊瑚



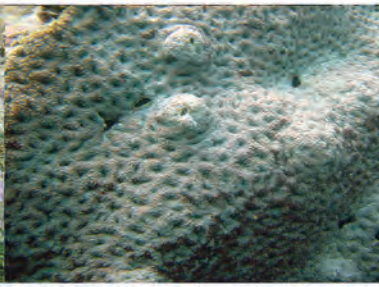
Leptastrea pruinosa 白斑小星珊瑚

Cyphastrea serailia 鋸齒刺星珊瑚

Favites pentagona 五邊角蜂巢珊瑚

Favia lizardensis 神龍島蜂巢珊瑚

Goniastrea aspera 粗糙菊花珊瑚



Acanthastrea echinata 大棘星珊瑚