

水生植物多面睇

Take a Closer Look at Aquatic Plants

水生植物包括完全浸沒於水中的植物以及紮根於水份飽和土壤的植物，它們生存於淡水、鹹淡水及海洋中。水生植物是所有濕地生態系統不可或缺的部份，它們大致分為四個類別：

Aquatic plants are plants that grow totally under water or root in water-saturated soil. The aquatic environment may be fresh water, brackish water as well as marine. They are indispensable to eco-system of all wetlands. They can be broadly divided into four groups:

根部固定在水中的土壤或石塊
Roots attach to mud or rocks at the bottom of water

挺水植物 Emergent Plant

- 其根部埋在水份飽和的土壤中，莖的基部亦浸沒在水中，至於莖幹的其餘部份、葉片和繁殖器官則離水生
- Root in water-saturated soil, with their leaves, part of stems and flowers grow out of water

沉水植物

Submerged Plant

- 一生大部份時間都生長在水底，在開花季節，花朵才浮上水面
- Spend almost their entire life cycle underwater except flowering season

浮葉植物

Floating-leaved Plant

- 其根部埋在水份飽和的土壤中，其葉片和花朵則浮在水面
- Anchor in water-saturated soil with leaves and flowers floating on water surface

漂浮植物 Floating Plant

隨水流或風力四處漂浮
Free floating with aid of water current or wind



勾葉槐葉蘋是香港濕地公園常見的漂浮植物
Salvinia cucullata is a common floating plant in the Hong Kong Wetland Park

漂浮植物 Floating Plants

漂浮植物有大量浮水的組織，使它們能浮在水面。某些漂浮植物(例如：勾葉槐葉蘋)的葉片和莖部有特殊的變異組織，以增加浮水能力。漂浮植物不需要根部固定植株，但部份植物會從莖部長出鬚狀根以吸收營養。

漂浮植物擁有極高的繁殖能力，可在短時間內以無性繁殖分裂成多個個體，如勾葉槐葉蘋可從匍匐莖快速長出新植株。在靜止的水體，浮萍科的植物可在數月內完全覆蓋水面。

Floating plants have large amount of floating tissues to provide buoyancy for the whole plant. Some floating plants (such as *Salvinia cucullata*) have specialised leaf and stem to enhance buoyancy of the plant. Roots lose the function as anchor, but some species use root-like hairs that arise from stems to absorb nutrients.

Floating plants are excellent in reproduction. A single individual can multiply rapidly by vegetative means, for example, *Salvinia cucullata* propagates new plants from underwater stolons. In quiet waters, species of Lemnaceae may cover the water surface entirely in a few months.

沉水植物 Submerged Plants

陽光經過水面時，部份光線會被反射。隨著水深增加，光線亦會進一步減弱，因此，沉水植物需要面對吸收陽光不足的問題。很多沉水植物的葉片都是多裂或長條狀，並且非常薄，這樣的結構可以增加葉片表面面積，方便吸取陽光及進行氣體交換，促進光合作用的同時，亦可減少水流對植物造成的衝擊。

沉水植物與陸生植物不同，出現缺水的機會不大，所以它們沒有運輸水份的組織。由於受到水力承托，它們不需長出支撐組織以維持其形態。沉水植物可以經植物表面，直接吸收水份及養份，故此根部主要用作固定植物。

在繁殖季節，大部份沉水植物如苦草的花會伸出水面，以增加授粉的機會。然而有些沉水植物如金魚藻則會於水中完成整個生命週期。



苦草整株浸沒於水中，但在繁殖季節，花會浮在水面
Eel grass is submerged plant with their flowers floating on from water during reproductive season

A portion of the sunlight is reflected at water surface, so the plants that grow underwater receive low level of sunlight. Light intensity is further reduced in deeper water. The leaves of submerged plants are dissected, elongated and thin, to increase surface area for absorption of sunlight, and enhance the efficiency of gaseous exchange. Their shapes also minimise the impact of water currents.

Unlike the terrestrial plants, submerged plants have no risk of water loss, so they do not have tissues for water transport. As they gain support from the surrounding water, they do not have supportive tissues. The submerged plants are capable of absorbing dissolved nutrients and water directly from the aquatic environment over its surface. The main function of root is for anchorage.

During reproduction, submerged plants such as Eel Grass usually have their flowers protrude from water to increase the chance of pollination. However, there are also exceptional cases. For example, Coontail completes its whole life cycle underwater.

浮葉植物 Floating-leaved Plants

浮葉植物紮根於水底的泥土，大多擁有闊大的浮葉，葉柄修長而堅韌。這些特質有助植物承受水流的衝擊。葉子浮在水面可以得到充足的陽光。葉面的氣孔可以讓空氣中的氧氣進入葉片。覆蓋著葉面的蠟質，讓水珠可自然流走，使葉片保持浮力。

Floating-leaved plants generally produce large floating leaves, which are connected to roots by long and tough petioles. These features help the plants to withstand the impact of water currents. The floating-leaved plants do not have difficulties in light and oxygen absorption. Atmospheric oxygen enters the leaf through the stomata on its upper surface. The waxy cuticle on leaf surface allows water droplets to roll away, thus maintaining buoyancy of the leaves.



睡蓮的葉浮在水面，根部則紮於泥土中
Water Lily roots in sediment with floating leaves



菱角的葉柄具有氣囊以助浮水（右圖為菱角的果實）
Water Caltrop has inflated petioles which maintain buoyancy of leaf on water surface (the fruit is shown on the right)

挺水植物 Emergent Plants

挺水植物的根部被淹浸在水中，大部份葉片都伸出水面。蓮和蘆葦，都是挺水植物的典型例子。雖然這類植物的根部通常生長在缺氧的泥土裡，但可藉著葉片、莖部及根部的通氣組織，將氧氣運送到根部。將蘆葦切開，你會發現內有眾多的管道，那便是蓮的通氣組織。由於部份植株離開水面，沒有水的浮力作為支撐，所以挺水植物的莖部會較為堅硬。



蓮是挺水植物，它的葉和部份葉柄都是伸出水面的
Indian Lotus is an emergent plant with leaves and part of stem protrude out of water



蓮的種子(蓮子)可食，而蓮蓬可以入藥
The seed of Indian Lotus are edible and the seed case is commonly used in medicine



蘆葦叢是淡水沼澤中的天然濾水廠
Reedbed is a natural filtering system in freshwater marshes

Plants rooted in submerged soil and with their leaves growing out of water are called emergent plants. Indian Lotus and Reed are typical emergent plants that have roots in oxygen-depleted substratum. The tissues in the leaves, stems and roots have air spaces that allow oxygen to travel down to the roots. When the rhizome (horizontal underground stem) is cut into two portions, we can find channels for air transportation. As part of stems and leaves of emergent plants protrude from water, their stems develop supporting tissue and are relatively tough.

以下是90種香港濕地公園裡的水生植物。當你發現水生植物時，可以在適當位置加上“✓”，以便數算你的個人觀察記錄(下表按植物所屬的科，再按拉丁學名的字首順序排列)。

90 species of aquatic plants that could be found in Hong Kong Wetland Park are listed here. Please put “✓” in the appropriate place and count your observation record here (the sequence is arranged by family name and then scientific name).

科 Family	中文名稱/英文名稱 Chinese Name / English Name	拉丁學名 Scientific Name	生長模式 Life Form
<input type="radio"/> 爵床科 Acanthaceae	水蓼衣/Willow Leaf Hydrophila	<i>Hydrophila salicifolia</i>	E
<input type="radio"/> 澤瀉科 Alismataceae	慈菇/Chinese Arrow-head	<i>Sagittaria sagittifolia leucopetala</i>	E
<input type="radio"/> 莧科 Amaranthaceae	星星蝦蚶菜/Nil	<i>Alternanthera paronychioides</i>	E
<input type="radio"/> 莧科 Amaranthaceae	空心莧, 空心蓮子草/Alligator-weed	<i>Alternanthera philoxeroides</i>	E
<input type="radio"/> 莧科 Amaranthaceae	蝦蚶菜, 蓮子草/Sessile Alternanthera	<i>Alternanthera sessilis</i>	E
<input type="radio"/> 傘形科 Apiaceae	水芹/Water Celery	<i>Oenanthe javanica</i>	E
<input type="radio"/> 天南星科 Araceae	芋/Taro	<i>Colocasia esculenta</i>	E
<input type="radio"/> 滿江紅科 Azollaceae	滿江紅/Mosquito Fern	<i>Azolla imbricata</i>	F
<input type="radio"/> 菊科 Asteraceae	鱧腸, 白花鱧腸菊/Eclipta	<i>Eclipta prostrata</i>	E
<input type="radio"/> 菊科 Asteraceae	鑽形紫菀/Nil	<i>Aster subulatus</i>	E
<input type="radio"/> 鳳仙花科 Balsaminaceae	華鳳仙/Touch-me-not	<i>Impatiens chinensis</i>	E
<input type="radio"/> 十字花科 Brassicaceae	西洋菜/Water Cress	<i>Nasturtium officinale</i>	E
<input type="radio"/> 桔梗科 Campanulaceae	尖瓣花/Ceylon Sphenoclea	<i>Sphenoclea zeylanica</i>	E
<input type="radio"/> 鴨跖草科 Commelinaceae	節節草/Diffuse Day-flower	<i>Commelina diffusa</i>	E
<input type="radio"/> 鴨跖草科 Commelinaceae	聚花草/Climber Floscopa	<i>Floscopa scandens</i>	E
<input type="radio"/> 鴨跖草科 Commelinaceae	裸花水竹葉/Naked Flower Murdannia	<i>Murdannia nudiflora</i>	E
<input type="radio"/> 旋花科 Convolvulaceae	蕹菜/Water Spinach	<i>Ipomoea aquatica</i>	E
<input type="radio"/> 莎草科 Cyperaceae	異型莎草/Difformed Galingale	<i>Cyperus difformis</i>	E
<input type="radio"/> 莎草科 Cyperaceae	疏穗莎草, 疏穎莎草/Laxspiculate Galingale	<i>Cyperus distans</i>	E
<input type="radio"/> 莎草科 Cyperaceae	高秆莎草/Tall-culm Galingale	<i>Cyperus exaltatus</i>	E
<input type="radio"/> 莎草科 Cyperaceae	風車草/Umbrella Plant	<i>Cyperus flabelliformis</i>	E
<input type="radio"/> 莎草科 Cyperaceae	畦畔莎草/Field-bank Galingale	<i>Cyperus haspan</i>	E
<input type="radio"/> 莎草科 Cyperaceae	疊穗莎草/Imbricate Galingale	<i>Cyperus imbricatus</i>	E
<input type="radio"/> 莎草科 Cyperaceae	碎米莎草/Rice Galingale	<i>Cyperus iria</i>	E
<input type="radio"/> 莎草科 Cyperaceae	芡草/Malacca Galingale	<i>Cyperus malaccensis</i>	E
<input type="radio"/> 莎草科 Cyperaceae	斷節莎/Fragrant Flatsedge	<i>Cyperus odoratus</i>	E
<input type="radio"/> 莎草科 Cyperaceae	毛軸莎草/Pilose Galingale	<i>Cyperus pilosus</i>	E
<input type="radio"/> 莎草科 Cyperaceae	荸薺, 馬蹄/Water Chestnut	<i>Eleocharis dulcis</i>	E
<input type="radio"/> 莎草科 Cyperaceae	龍節草/Four-angled Culm Spikesedge	<i>Eleocharis tetraquetra</i>	E
<input type="radio"/> 莎草科 Cyperaceae	扁鞘囊拂草/Flat-sheath Fimbristylis	<i>Fimbristylis complanata</i>	E
<input type="radio"/> 莎草科 Cyperaceae	兩歧囊拂草, 稜穗囊拂草/Dichotomous Fimbristylis	<i>Fimbristylis dichotoma</i>	E
<input type="radio"/> 莎草科 Cyperaceae	銹鱗囊拂草/Feruginous-scaled Fimbristylis	<i>Fimbristylis ferruginea</i>	E
<input type="radio"/> 莎草科 Cyperaceae	日照囊拂草/Sunshiny Fimbristylis	<i>Fimbristylis miliacea</i>	E
<input type="radio"/> 莎草科 Cyperaceae	雙穗囊拂草/Doublespikelet Fimbristylis	<i>Fimbristylis subbispicata</i>	E



芡草又稱「鹹水草」，被曬乾後作為繩子
Malacca Galingale is an emergent plant used as natural string in the old days

科 Family	中文名稱/英文名稱 Chinese Name / English Name	拉丁學名 Scientific Name	生長模式 Life Form
莎草科 Cyperaceae	黑果囊披草/Black-fruited Fimbristylis	<i>Fimbristylis cymosa</i>	E
莎草科 Cyperaceae	芙蕖草/Umbrella Fuirena	<i>Fuirena umbellata</i>	E
莎草科 Cyperaceae	香根水蜈蚣/Aromatic Kyllinga	<i>Kyllinga aromatica</i>	E
莎草科 Cyperaceae	單穗水蜈蚣/Uni-spike Kyllinga	<i>Kyllinga monocephala</i>	E
莎草科/Cyperaceae	短葉水蜈蚣/Short-leaved Kyllinga	<i>Kyllinga brevifolia</i>	E
莎草科/Cyperaceae	蒲草· 蠶叢草/Cattail-leaved Lepironia	<i>Lepironia articulata</i>	E
莎草科/Cyperaceae	球穗扁莎/Globular Spike Pycreus	<i>Pycreus flavidus</i>	E
莎草科/Cyperaceae	多穗扁莎/Branch Pycreus	<i>Pycreus polystachyus</i>	E
莎草科/Cyperaceae	水毛花/Bog Bulrush	<i>Scirpus mucronatus</i>	E
莎草科/Cyperaceae	鑽苞蘆草/Coastal Bulrush	<i>Scirpus littoralis</i>	E
木賊科/Equisetaceae	篋管草· 纖弱木賊/Frail Horsetail	<i>Equisetum debile</i>	E
小二仙草科/Haloragidaceae	粉綠狐尾藻/Parrot-feather	<i>Myriophyllum aquaticum</i>	E
水蘓科/Hydrocharitaceae	黑藻· 水藻/Water-weed	<i>Hydrilla verticillata</i>	S
水蘓科/Hydrocharitaceae	苦草/Eel Grass	<i>Vallisneria natans</i>	S
燈心草科/Juncaceae	燈心草/Common Rush	<i>Juncus effusus</i>	E
燈心草科/Juncaceae	筍石菖/Rush	<i>Juncus prismatocarpus</i>	E
唇形科/Lamiaceae	水珍珠菜· 毛水珍珠菜/Nil	<i>Pogostemon auricularius</i>	E
唇形科 Lamiaceae	荔枝草· 雪見草/Salvia	<i>Salvia plebeia</i>	E
浮萍科 Lemnaceae	青萍/Lesser Duck-weed	<i>Lemna minor</i>	F
黃花越葉草科 Limnocaritaceae	黃花越葉草/Yellow Velvetleaf	<i>Limnocaritis flava</i>	E
千屈菜科 Lythraceae	圓葉節節菜/Round-leaved Rotala	<i>Rotala rotundifolia</i>	E
蕓科 Marsileaceae	蕓/Water Shamrock	<i>Marsilea quadrifolia</i>	E
蓮科 Nelumbonaceae	蓮· 荷花/Indian Lotus	<i>Nelumbo nucifera</i>	E
睡蓮科 Nymphaeaceae	芡實/Semen Euryales	<i>Euryale ferox</i>	F
睡蓮科 Nymphaeaceae	睡蓮屬/Water-lily	<i>Nymphaea spp.</i>	FL
柳葉菜科 Onagraceae	水龍· 過塘蛇/Water-dragon	<i>Ludwigia adscendens</i>	E
柳葉菜科 Onagraceae	毛草龍/Primrose Willow	<i>Ludwigia octovalvis</i>	E
柳葉菜科 Onagraceae	細花丁香蓼/Perennial Ludwigia	<i>Ludwigia perennis</i>	E
水蕨科 Parkeriaceae	水蕨/Water Fern	<i>Ceratopteris thalictroides</i>	E
禾本科 Poaceae	薏苡· 川穀/Job's Tears	<i>Coix lacryma-jobi</i>	E
禾本科 Poaceae	雙稜草/Common Diplachne	<i>Diplachne fusca</i>	E
禾本科 Poaceae	稗· 大骨草/Bam-yard Grass	<i>Echinochloa crusgalli</i>	E
禾本科 Poaceae	鼠婦草· 卡氏雀巢草/Thalia Lovegrass	<i>Eragrostis atrovirens</i>	E
禾本科 Poaceae	柳葉蕨/Globose Zo-sasa	<i>Isachne globosa</i>	E
禾本科 Poaceae	李氏禾· 薈草/Club Head Cutgrass	<i>Leersia hexandra</i>	E
禾本科 Poaceae	稻/Rice	<i>Oryza sativa</i>	E
禾本科 Poaceae	千金子· 油草/Chinese Sprangletop	<i>Leptochloa chinensis</i>	E
禾本科 Poaceae	蘆葦/Common Reedgrass	<i>Phragmites australis</i>	E
蓼科 Polygonaceae	毛蓼/Hairy Knotweed	<i>Polygonum barbatum</i>	E
蓼科 Polygonaceae	光蓼/Glabrous Knotweed	<i>Polygonum glabrum</i>	E
蓼科 Polygonaceae	大馬蓼· 白辣蓼/White Smartweed	<i>Polygonum lapathifolium</i>	E
蓼科 Polygonaceae	長鬚蓼/Long-seta Knotweed	<i>Polygonum longisetum</i>	E
蓼科 Polygonaceae	腋花蓼· 習見蓼/Axill-flowered Knotweed	<i>Polygonum plebeium</i>	E
蓼科 Polygonaceae	伏毛蓼· 短毛蓼/Pubescent Knotweed	<i>Polygonum pubescens</i>	E
蓼科 Polygonaceae	長刺酸模· 假蒺藜/Trisetiferous Dock	<i>Rumex trisetifer</i>	E
毛茛科 Ranunculaceae	石龍芮/Celery-leaved Crowfoot	<i>Ranunculus sceleratus</i>	E
槐葉蕨科 Salviniaceae	勾葉槐葉蕨/Salvinia	<i>Salvinia cucullata</i>	F
玄參科 Scrophulariaceae	假馬齒莧/Water Hyssop	<i>Bacopa monnieri</i>	E
三白草科 Saururaceae	三白草/Lizard's Tail	<i>Saururus chinensis</i>	E
玄參科 Scrophulariaceae	母草/Brittle False Pimpernel	<i>Lindernia crustacea</i>	E
玄參科 Scrophulariaceae	長蒴母草· 長果母草/Long-capsuled False Pimpernel	<i>Lindernia anagallis</i>	E
玄參科 Scrophulariaceae	泥花草· 鴨腳草/Creeping False Pimpernel	<i>Lindernia antipoda</i>	E
玄參科 Scrophulariaceae	細莖母草/Slender-stemmed False Pimpernel	<i>Lindernia pusilla</i>	E
荇科 Trapaceae	菱角/Caltrop	<i>Trapa spp.</i>	FL
香蒲科 Typhaceae	水燭/Narrow-leaved Cat-tail	<i>Typha angustifolia</i>	E
薑科 Zingiberaceae	薑花/Ginger Lily	<i>Hedychium coronarium</i>	E



濕地昆蟲（例如蜻蜓和豆娘）的稚蟲爬上挺水植物的莖離開水面羽化為成蟲
Naiads (e.g. dragonfly or damselfly) of aquatic insects will crawl onto stem of emergent plant for the final molt into adult



蜻蜓羽化後將脫留在挺水植物上
Exuviae of a dragonfly left on emergent plant after emergence

索引 Key:

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