



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

香港的食蟲植物

Insectivorous Plants of Hong Kong



提起食蟲植物，無不想起豬籠草，並對它那瓶狀捕囊的精巧結構和功能讚歎不已。但是香港還有其他食蟲植物，我們也應有所了解。食蟲植物從捕獲的動物中獲得礦物元素。特別是固態氮。但它們捕獲昆蟲的方法各異，顯示出捕蟲功能適應的多樣性。

No one ever mentions the insectivorous plant without thinking of the Pitcher-plant (*Nepenthes mirabilis*) and being amazed by the marvelous structure and behavior of the flask-like pitcher. But there are other insectivorous plants in Hong Kong that we should also be aware of.

Insectivorous plants obtain minerals, especially fixed nitrogen, from animal prey, but they entrap their prey in various ways, showing a diversity of adaptation of trapping functions.

豬籠草屬（豬籠草科）*Nepenthes* (Nepenthaceae)

本屬香港僅有豬籠草 (*Nepenthes mirabilis*) 一種，為多年生草本；莖匍匐或憑葉中脈伸長而形成的卷鬚攀緩。卷鬚的末端通常膨大，發育成中空的捕蟲囊；囊口有蓋，成熟時張開。囊內積儲有水。囊口邊緣向內彎卷，綠色而常有紅色斑塊，生有蜜腺；蜜腺的下方內側極光滑。昆蟲受蜜腺和鮮艷的顏色吸引而來，一旦滑入囊內，由於囊的內壁光滑便無法爬出，最終被淹死於囊內的積水中，經分解後為豬籠草所吸收（圖1）。

The Pitcher plant (*Nepenthes mirabilis*) is the only species of *Nepenthes* occurring in Hong Kong. It is a perennial herb, prostrate or climb by means of tendrils which are prolongations of the leaf midrib. The end of the tendril generally becomes greatly swollen and hollowed out and develops into a pitcher, with a lid projecting over the mouth, which opens as the pitcher matures. The edge of the pitcher is curved inward, green and with red blotches. At the entrance of the pitcher, there are honey glands, below which the interior is very slippery. Insects are attracted to the pitcher by its honey or bright colour. Once they enter the pitcher, they are unable to climb out because of the slippery surface and eventually drown in the water that accumulated in the base of the pitcher. The plant absorbs the products of decay (fig. 1).



狸藻屬（狸藻科）*Utricularia* (Lentibulariaceae)

狸藻屬香港有六種，均為多年生小草本，可分為水生和陸生兩大類。水生者有黃花狸藻 (*Utricularia aurea*) (圖2及圖3) 和少花狸藻 (*U. exoleta*)，生長於池塘等地的淺水中；葉羽狀分裂成多數絲狀裂片。捕蟲囊側生於葉裂片上 (圖4)。



There are six species of *Utricularia* in Hong Kong. They are tiny perennial herbs and can be divided into aquatic and terrestrial. The former includes the Floating Bladderwort (*U. aurea*) (fig.2&3) and Sparse-flowered Bladderwort (*U. exoleta*). They grow in ponds and places with shallow water. Leaves pinnately divided into numerous thread-like green segments; bladders or traps are borne on the segments (fig. 4).



挖耳草(*Utricularia bifida*) (圖5)、短梗挖耳草(*U. caerulea*)、圓葉挖耳草(*U. striatula*)和濕地挖耳草(*U. uliginosa*) 均為陸生類，生長於沼澤和濕地中；葉倒卵形至匙形或線形，開花時通常已枯萎；捕蟲囊多生於無葉的匍匐枝上，有時亦生於葉器上。

The Small Yellow Bladderwort (*Utricularia bifida*) (fig. 5), Blue Bladderwort (*U. caerulea*), Round-leaved bladderwort (*U. striatula*), Wetland Bladderwort (*U. uliginosa*) are terrestrial, growing in marshes and wetlands; leaves obovate to spatulate or linear, but usually withered in flowering time. The bladders or traps are borne on leaves or more often on leafless stolons.

根據其著生部位，可推斷捕蟲囊應是葉的一部分。它是一個袋狀結構，一端有柄；柄的對方有一小口。沿口周圍生有一些剛毛。當小昆蟲或甲殼類動物接近捕蟲囊時會被剛毛導向囊口。囊口有一半圓形可控制開關的活瓣，上面亦長有剛毛。當這些剛毛受到觸動時，活瓣即被觸發，借助水的衝力，將動物帶入囊內。這些小動物不久便死於囊內，被消化吸收。

The position suggests that each trap represents a leaf division. It consists of a hollow bag borne at the end of a stalk, with a small entrance opposite the stalk. Around the entrance are some projecting bristles, so arranged that an insect or crustacean passing the traps will tend to be guided towards its mouth. The entrance itself is closed by a hermetically sealed semicircular valve which also bears hairs. If these are touched the valve is triggered and the rush of water drags the animal inside. These animal prey captured by the traps sooner or later die and are digested.



茅膏菜屬 (茅膏菜科) *Drosera* (Droseraceae)



茅膏菜香港共有六種，均為多年生小草本，以腺毛捕捉昆蟲。寬苞茅膏菜(*Drosera spatulata* var. *loureirii*)為較常見的一種 (圖6)，通常生長於草地和沙壤地上。葉倒卵形至匙形，排成直徑1-2厘米的蓮座叢，上面生有棒狀毛；毛端分泌出無色的黏液吸引昆蟲。當昆蟲被黏液黏住時，毛即向內彎卷，直至葉片裹住昆蟲 (圖7)。昆蟲被黏毛產生的多種酶和細菌所產生的酶共同分解，釋放養分，再由分泌酶的腺體吸收。

There are six species of *Drosera* in Hong Kong and all are small perennial herbs. They trap insects by means of glandular hairs. The Loureiro's Drosera (*Drosera spatulata* var. *loureirii*) is a rather common species (fig. 6), usually growing on grassland and sandy soil; leaves obovate-spatulate in dense rosettes of about 1 - 2 cm across, with club-shaped hairs on the upper surface. The tips of these glandular hairs secrete a clear, sticky liquid, or mucilage that attracts insects. When an insect is caught in the mucilage, the hairs bend inward until the leaf finally curves around the insect (fig. 7). The hairs are known to secrete at least six enzymes, which, together with bacteria - produced enzymes, digest the insect. Nutrients released from prey into the mucilage are absorbed by the same glands that secreted the digestive enzymes.



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