

# 野生生物 - 蜻蜓與豆娘 Wildlife Highlights - Dragonflies and Damselflies

■ 蜻蜓與豆娘都是蜻蜓目的昆蟲。在淡水濕地附近，我們不難找到牠們的蹤跡。香港能找到的蜻蜓目昆蟲包括差翅亞目(蜻蜓)和束翅亞目(豆娘)。如其他昆蟲般，牠們有一雙複眼、兩對翅膀和三對腳。

Dragonflies and damselflies belong to the order Odonata. They are often found close to freshwater. Anisoptera (dragonflies) and Zygoptera (damselflies) are suborders of Odonata that can be found in Hong Kong. As most of the insects, they have one pair of compound eyes, two pairs of wings and three pairs of legs.

## ■ 生命週期 Life Cycle

蜻蜓和豆娘的生命週期包括卵、稚蟲和成蟲三個階段。這個過程一般被稱為不完全變態。

在繁殖期，部份雄性的蜻蜓和豆娘具領域性行為，以防止其他雄性的入侵。交配時，雄蟲會運用腹部末端肛附器的交合突抓著雌蟲的頭部後側，而雌蟲則會彎起腹部到雄蟲腹部腹面第二組性器官，以接受雄蟲的精子。牠們有時會以這種輪狀的方式飛行。

蜻蜓和豆娘會把卵產在水面上、水生植物表面或莖內，視乎品種而定。由卵孵化而成的稚蟲在水中生活，豆娘稚蟲依靠體外的尾腮來呼吸，蜻蜓稚蟲則依靠體內的直腸腮來呼吸。當稚蟲將蛻變為成蟲，牠們會沿挺水植物、枯枝或石頭，爬離水面，羽化為成蟲。而成蟲則以胸部和腹部的氣孔呼吸。

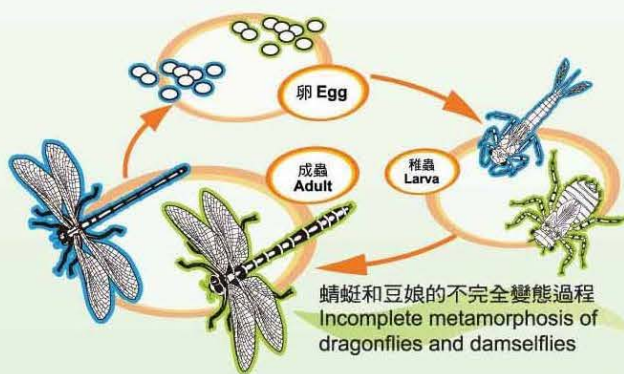
All Odonates undergo three stages in their life cycle, which are egg, naiad (larva) and adult. This cycle is generally described as incomplete metamorphosis.

During mating season, some male odonates show territorial behaviour against intrusion from others of the same species. Pairing occurs when the male grasps the back of the female head with the aid of anal appendage claspers. Then the female curves her abdomen to attach with the secondary sexual organs of the male to receive sperm. Their posture look like a wheel. Sometimes, they fly in this posture.

Some odonates lay their eggs on water surface, some on aquatic plants, and some hide their eggs in the stem of aquatic plants. Their naiads adopt an aquatic life style. Dragonfly naiads possess internal rectal gills while the damselfly naiads possess external gills for respiration. Before emergence, the naiads will crawl out of water and climb onto sticks or boulders. Adults breathe by spiracles (openings on thorax and abdomen).



黃蜻是香港最常見的蜻蜓  
Wandering Glider (*Pantala flavescens*) is the commonest dragonfly in Hong Kong



交尾中的廣瀨妹蟴  
Two paring Four-spot Midgets  
(*Mortonagrion hirosae*)



蜻蜓羽化後留下的蛻是稚蟲的外骨骼  
Exuviae of a dragonfly is an emptied larval exoskeleton which left after emergence



蜻蜓(左)和豆娘(右)的稚蟲  
Naiads of dragonfly (left) and damselfly (right)



## 蜻蜓與豆娘的分別

### Differences between Dragonfly and Damselfly

蜻蜓與豆娘的外型十分相似，牠們的分別在於蜻蜓的雙眼緊貼在一起（春蜓科除外），而豆娘的雙眼明顯分開。蜻蜓的後翅基部較前翅基部寬闊，而豆娘的前翅跟後翅的大小及形狀都非常相似。在靜止時，蜻蜓的翅膀打開，而大部份的豆娘的翅膀則緊靠在一起。

Dragonflies and damselflies look fairly similar, but you can distinguish them by observing their eyes and wings. The eyes of dragonflies are almost connected with each other (except Gomphidae) while the eyes of damselflies are widely separated. The bases of hindwings of dragonflies are broader than those of forewings. Size and shape of forewings and hindwings are almost the same in damselflies. When at rest, most dragonflies open their wings while most damselflies close their wings.



蜻蜓後翅基部較前翅寬闊，休息時通常會張開翅膀  
Bases of hindwings of dragonfly are broader than those of forewings, and the wings are open when at rest



大多數蜻蜓的眼睛都是緊密相連的  
Eyes of most dragonflies are connected to each other



豆娘的眼睛相隔頗遠  
Eyes of damselfly are widely separated



豆娘前、後翅的形狀相似，大多數豆娘在休息時翅膀緊靠在一起  
Forewings and hindwings of damselfly are similar in size and most of their wings are closed when at rest

## 蜻蜓和豆娘在濕地的角色

### Roles of Odonate in Wetlands

蜻蜓和豆娘稚蟲是活躍的捕食者，牠們會捕食孑孓、水蚤和其他體型細小的水生生物。成蟲在飛行時捕食昆蟲，如蚊和蒼蠅等，這對控制由蚊傳播的疾病（如瘧疾和登革熱）有相當作用。另一方面，蜻蜓和豆娘以及牠們的稚蟲也成為兩棲動物、雀鳥和魚類的食物。

雖然某些蜻蜓和豆娘品種能在受污染的水體中生存，但大部份都只能在水質優良的水體生活。水溫、含氧量和污染物含量都直接影響牠們的存活率。這些因素令牠們成為重要的生態監察指標，以監察濕地的水質和狀況。

Odonate naiads are active predators that feed on aquatic animals such as larvae of mosquito, water flea and other tiny aquatic creatures. The adults capture their prey while flying. They feed on small insects such as mosquitoes and flies. This is important in controlling the mosquitoes which can be vector of diseases such as malaria and dengue fever. On the other hand, amphibians, birds and fishes prey on odonates.

Although some species survive in polluted water, most of the odonates live in water bodies with fairly good water quality. Their survival rate is affected by water temperature, oxygen level and concentration of pollutant. Hence, they are important biological indicators of water quality as well as conditions of wetlands.



## 蜻蜓和豆娘所面對的威脅 Major Threats to Odonates

污染和生境消失對蜻蜓和豆娘造成最大威脅。工業和家居排放的廢水往往減低牠們的卵、稚蟲和獵物的生存機會。另外，河流渠道化也大大降低河床和河岸植被的面積，減少了稚蟲的庇護所和牠們羽化時所需的攀附物。

The major threats to odonate are pollution and habitat loss. Industrial and domestic sewage reduce the survival rate of their eggs, naiads and their preys as well. Channelisation remove riparian vegetation and vegetation on river-bed, this also reduce shelters for naiads and possible attachment surface for emergence.



河流渠道化大大降低植物的覆蓋範圍，減少適合蜻蜓生活的生境  
Channelisation remove aquatic vegetation, and reduce suitable habitats for dragonflies

## 我們能做甚麼？ What Can We Do?

防止污染水源和減少對濕地的破壞往往是保護濕地的最好方法。參與濕地發展計劃的公眾諮詢也是另一個保護蜻蜓和豆娘的方法。

We should protect our wetlands by avoiding water pollution and destruction to wetland habitats. In addition, taking part in public consultation on wetland development projects can also help to protect the odonates.

## 觀察蜻蜓 Observe Odonates

香港濕地公園的生態探索中心以及原野漫遊徑附近的水體，都是觀察蜻蜓目昆蟲的好地方。

蜻蜓有卓越的飛行技巧，牠們不但能往前飛，亦能向後飛行及騰空飛行。要追蹤觀察飛行中的蜻蜓或豆娘，有時會把觀察者弄得天旋地轉。因此，在牠們停歇時，最適宜仔細觀察。有時候，大家可能會發現，兩隻正在交尾的蜻蜓其外貌有很大差異。碰到這個情況，不用感到奇怪。因為部份蜻蜓和豆娘兩性的體色並不相同，例如在香港濕地公園常見的紅蜻和褐斑異痣蟴便是兩個典型的例子。

觀察蜻蜓，簡單如欣賞牠們奪目耀眼的顏色，以至找出近似品種的相異之處，都可帶來很大的樂趣。

The water bodies near the Wetland Discovery Centre and the Wildside Walk are wonderful places to observe odonates.

Odonates are gifted flying insects. They are capable of flying forward, backward as well as hovering in the air. You will feel dizzy if you attempt to observe flying odonates around. The better option is to observe a resting one. Sometimes, you might encounter pairing couples with very different colour patterns. For example Crimson Darter and Common Bluetail that are commonly seen in the Hong Kong Wetland Park have different colours.

It is an interesting activity to take a closer look at the beautiful colours of the odonates, as well as comparing different species.



褐斑異痣蟴(雄性)  
Common Bluetail (male)  
(*Ischnura senegalensis*)



褐斑異痣蟴(雌性)  
Common Bluetail (female)  
(*Ischnura senegalensis*)



紅蜻(雄性)  
Crimson Darter (male)  
(*Crocothemis servilia servilia*)



紅蜻(雌性)  
Crimson Darter (female)  
(*Crocothemis servilia servilia*)



以下是截至2007年底，香港濕地公園內曾記錄的40種蜻蜓及豆娘的名稱。當你來香港濕地公園參觀時，不妨帶備一本蜻蜓圖鑑和這份資料頁。觀察到蜻蜓或豆娘時，可以在適當位置加“√”，以便數算你的觀察記錄(下表按拉丁學名的字首順序排列)。

The following is a complete list updated by the end of 2007 of all 40 species that have been recorded in Hong Kong Wetland Park. Please “√” in appropriate place and count the species you have seen (the sequence is arranged in alphabetical order of the Scientific Name).

	中文名稱 Chinese Name	英文名稱(拉丁學名) English Name (Scientific Name)
<input type="radio"/>	雄腹蜻	Asian Pintail ( <i>Acisoma panorpoides panorpoides</i> )
<input type="radio"/>	碧翠蜓	Common Evening Hawker ( <i>Anaciaeschna jaspidea</i> )
<input type="radio"/>	斑偉蜓	Pale-spotted Emperor ( <i>Anax guttatus</i> )
<input type="radio"/>	碧偉蜓	Lesser Emperor ( <i>Anax parthenope julius</i> )
<input type="radio"/>	藍額疏脈蜻	Blue Dasher ( <i>Brachydiplax chalybea flavovittata</i> )
<input type="radio"/>	黃翅蜻	Asian Amberwing ( <i>Brachythemis contaminata</i> )
<input type="radio"/>	紅蜻	Crimson Darter ( <i>Crocothemis servilla servilla</i> )
<input type="radio"/>	斑藍小蜻	Black-tipped Percher ( <i>Diplacodes nebulosa</i> )
<input type="radio"/>	紋藍小蜻	Blue Percher ( <i>Diplacodes trivialis</i> )
<input type="radio"/>	閃藍麗大蜻	Regal Pond Cruiser ( <i>Ephthalma elegans</i> )
<input type="radio"/>	細腰長尾蜓	Dingy Dusk-hawker ( <i>Gynacantha subinterrupta</i> )
<input type="radio"/>	臀斑楔翅蜻	Amber-winged Glider ( <i>Hydrobasileus croceus</i> )
<input type="radio"/>	霸王葉春蜓	Common Flangetail ( <i>Ictinogomphus pertinax</i> )
<input type="radio"/>	華麗寬腹蜻	Forest Chaser ( <i>Lyriothemis elegantissima</i> )
<input type="radio"/>	高翔澹蜻	Coastal Glider ( <i>Macrodiplax cora</i> )
<input type="radio"/>	天使大偽蜻	South China Cruiser ( <i>Macromia katae</i> )
<input type="radio"/>	侏紅小蜻	Scarlet Dwarf ( <i>Nannophya pygmaea</i> )
<input type="radio"/>	截斑脈蜻	Pied Percher ( <i>Neurothemis tullia tullia</i> )
<input type="radio"/>	黑尾灰蜻	Common Blue Skimmer ( <i>Orthetrum glaucum</i> )
<input type="radio"/>	赤褐灰蜻	Common Red Skimmer ( <i>Orthetrum prunosum neglectum</i> )
<input type="radio"/>	狹腹灰蜻	Green Skimmer ( <i>Orthetrum sabina sabina</i> )
<input type="radio"/>	黃蜻	Wandering Glider ( <i>Pantala flavescens</i> )
<input type="radio"/>	玉帶蜻	Pied Skimmer ( <i>Pseudothemis zonata</i> )
<input type="radio"/>	紅胭蜻	Ruby Darter ( <i>Rhodothemis rufa</i> )
<input type="radio"/>	斑麗翅蜻	Variegated Flutterer ( <i>Rhyothemis variegata arria</i> )
<input type="radio"/>	大團扇春蜓	Golden Flangetail ( <i>Sinictinogomphus clavatus</i> )
<input type="radio"/>	雲斑蜻	Evening Skimmer ( <i>Tholymis tillarga</i> )
<input type="radio"/>	華斜痣蜻	Saddlebag Glider ( <i>Tamea virginia</i> )
<input type="radio"/>	曉褐蜻	Crimson Dropwing ( <i>Trithemis aurora</i> )
<input type="radio"/>	灰脈褐蜻	Dancing Dropwing ( <i>Trithemis pallidinervis</i> )
<input type="radio"/>	赤斑曲鈎脈蜻	Scarlet Basker ( <i>Urothemis signata signata</i> )
<input type="radio"/>	細腹綠眼蜻	Dingy Dusk-darter ( <i>Zyxomma petiolatum</i> )
<input type="radio"/>	杯斑小蟴	Orange-tailed Midget ( <i>Agriocnemis femina oryzae</i> )
<input type="radio"/>	黃尾小蟴	Wandering Midget ( <i>Agriocnemis pygmaea</i> )
<input type="radio"/>	黑背尾蟴	Eastern Lilysquatter ( <i>Cercion melanotum</i> )
<input type="radio"/>	琉球橘黃蟴	Orange-tailed Sprite ( <i>Ceriagrion auranticum ryukyuanum</i> )
<input type="radio"/>	褐斑異痣蟴	Common Bluetail ( <i>Ischnura senegalensis</i> )
<input type="radio"/>	廣瀨妹蟴	Four-spot Midget ( <i>Mortonagrion hirosei</i> )
<input type="radio"/>	綠斑蟴	Blue Sprite ( <i>Pseudagrion microcephalum</i> )
<input type="radio"/>	丹頂斑蟴	Orange-faced Sprite ( <i>Pseudagrion rubriceps rubriceps</i> )

