

蜻蛉倩影

The Charming Dragonflies

簡介 Introduction

蜻蜓和豆娘屬於蜻蛉目，是強悍的肉食性昆蟲。蜻蜓目的英文名稱Odonata在希臘文解作「有齒的顎」，比喻蜻蜓強勁的顎。蜻蜓目遍布全世界，從赤道至北極地帶都有牠們的蹤跡。自然科學在八五四年發表第一份香港蜻蜓紀錄開始，直至二零零九年五月香港有紀錄的蜻蜓品種已增至一百一十五種。

蜻蜓捕食蚊子、蒼蠅、蠅等細小昆蟲，這樣既可控制小昆蟲的族群數量，又能維持生態平衡。

Dragonflies and damselflies are aggressive carnivorous insects and belong to Order Odonata. In Greek, Odonata means "toothed jaws" which refers to the awesome jaws of the dragonflies. They can be found worldwide from the tropics to the sub-arctic regions. Since the first dragonfly record ever published in Hong Kong by Selys in 1854, there were 115 dragonfly species recorded in Hong Kong as at May 2009.

Dragonflies are important in maintaining the ecological balance as they prey on other insects such as mosquitoes, flies and aphids, hence controlling the number of these insects.

成年蜻蜓和豆娘的分別 Differences between adult dragonflies and damselflies

特徵 Characteristics	蜻蜓 Dragonflies	豆娘 Damselflies
複眼 Compound Eyes	雙眼緊閉或分開不遠 Eyes closed together or not widely separated	雙眼分開甚遠 Eyes widely separated
翅膀 Wings	前後翅形狀及大小相近 Forewings broader than the hindwings	前後翅形狀及大小相近 Shape and size of forewings and hindwings are similar
通常的休息姿態 Usual resting posture	翅膀通常張開 Wings are usually held open	翅膀通常收合 Wings are usually held closed together

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生活史 Life History

蜻蜓是不完全變態的昆蟲，牠們的生活週期可分為三個階段：卵、稚蟲（幼蟲）和成蟲。

Dragonflies undergo incomplete metamorphosis. The life cycle goes through three stages: egg, naiad (larva) and adult.

例子: 黃斑豆娘 *Hesania grandis* (Dragonfly)

稚蟲 Naiads

蜻蜓的稚蟲是水生昆蟲，牠們隨水生的環境而演化出不同的適應能力，某些蜻蜓品種甚至只適應特定的微環境。

Naiads of dragonflies live in aquatic environment. They have evolved to adapt to the aquatic environment. Some are even specific to certain microhabitats.

稚蟲的氣體交換 Gaseous exchange of naiads

蜻蜓的稚蟲利用水連續體內的直腸進行氣體交換；豆娘的稚蟲則利用體外的氣管進行氣體交換。蜻蜓和豆娘的稚蟲的體側都有發達的氣管以增加氣體交換的效果。

Naiads of dragonflies have internal rectal gills, where gaseous exchange takes place when water passes through the rectum. Naiads of damselflies have external caudal gills for gaseous exchange. Both dragonfly and damselfly naiads possess well-developed trachea in their gills to increase surface area for gaseous exchange.

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身體結構 Body Structure

蜻蜓 Dragonflies: *藍斑蜻蜓 Blue-spotted Dragonfly* (Blue-spotted dragonfly)

豆娘 Damselflies: *黃斑豆娘 Four-spot Megaloptera* (Four-spot damselfly)

蜻蜓 Dragonflies: *天王大龍蜓 Dark-bellied Dragonfly* (Dark-bellied dragonfly)

豆娘 Damselflies: *黃斑豆娘 Four-spot Megaloptera* (Four-spot damselfly)

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有趣的蜻蜓資訊 Interesting Facts about Dragonflies

360° 蜻蜓的複眼由數千個視網膜視細胞組成，這使得每隻蜻蜓的視野可達360度。Eyes of a dragonfly consist of thousands of individual photoreceptors in its eyes and possess a very wide vision angle.

北極圈 ARCTIC CIRCLE 蜻蜓是北極的昆蟲，牠們在北極圈生存。Dragonflies are arctic insects but they are found within the arctic circle.

活動會隨著太陽的移動而移動。Adult dragonflies adjust the position of their bodies to the sunlight direction, to reduce area of body in contact with sunlight.

多隻飛行飛行：飛行時，上下飛行。Ability of flight and manoeuvrability in air: able to fly forward, backward, up and down.

中國內地 MAINLAND CHINA: 面積 9,596,960平方公里 約700萬種

英國 UNITED KINGDOM: 面積 244,820平方公里 50萬種

香港 HONG KONG: 面積 1,504平方公里 133萬種

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濕地與蜻蜓 Wetlands and Dragonflies

蜻蜓的生境 Habitats of dragonflies

蜻蜓的一生與濕地有密切的關係；成蟲在水中產卵，稚蟲在水中成長，稚蟲的生境包括靜止水體（例如：湖沼、池塘、淤積、淤泥等）和流動水體（例如：河渠、溝渠、水坑、水渠、水溝等）。

雖然成蟲雖然不在水中生活，但是牠們仍於濕地捕食食物、交配和產卵。

Dragonflies are closely related to wetlands throughout their lifespan. Dragonflies lay eggs in water and their naiads live in water. Habitats of naiads include stagnant water (e.g. lake, pond, swamp, peat bog, etc) and running water (e.g. river, stream, water-catchment channel, waterfalls, etc).

Although adults do not live in water, they stay in wetlands. Adults usually wander around wetlands for preys, mates and sites to lay eggs.

蜻蜓的重要性 Importance of dragonflies

蜻蜓的成蟲和稚蟲是肉食性昆蟲，在維持生態平衡上扮演重要角色。蜻蜓捕食蚊子、蒼蠅、蠅等細小昆蟲，因此，蜻蜓能直接間接地減少濕地生態系統內疾病的傳播。

Both adults and naiads of dragonflies are predaceous and thus play important roles in ecological balance. Naiads of dragonflies feed on wrigglers while adults feed on mosquitoes and aphids. Hence dragonflies can directly or indirectly reduce the dispersal of diseases in wetlands.

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蜻蜓面對的威脅 Threats to dragonflies

蜻蜓與濕地關係密切，任何破壞濕地的行為將減少蜻蜓的數量和限制牠們的分布。

Dragonflies are closely related with wetlands. Destruction and degradation of wetlands cause decline in abundance and limit the distribution of dragonfly species.

我們如何保護蜻蜓？ How can we do to protect dragonflies?

這本冊子提供有關如何保護蜻蜓的資訊。這本冊子提供有關如何保護蜻蜓的資訊。這本冊子提供有關如何保護蜻蜓的資訊。

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香港濕地公園的蜻蜓 Dragonfly Species in Hong Kong Wetland Park

雄 性 Male 雌 性 Female

藍翅蜻蜓 Blue-winged Dragonfly (Anax imperator)

黃斑豆娘 Four-spot Megaloptera

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香港其他的蜻蜓 Other Dragonfly Species in Hong Kong

雄 性 Male 雌 性 Female

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