

開心快活鳥 What Lively Birds They Are

「雀鳥」是甚麼？ What are "Birds"?

雀鳥是有羽毛、角質喙、翅膀和會產蛋的動物。牠們適應了沙漠及至到北極的不同地方棲息生活。有些鳥類生活在完全黑暗中並能使用迴聲定位來移動，有些鳥類可以潛入水中，深度可到達超過45米。像鴕鳥、三趾鴕鳥、鸛鵒及企鵝等鳥類有翅膀但不會飛翔。

"Birds" are animals with feathers, horny beaks, wings, and lay eggs. They have adapted to different habitats ranging from deserts to the North Pole. Some birds live in total darkness and use echolocation to move around, and some can dive into water to depth greater than 45 meters. Birds like the ostrich, rhea, emu, penguin have wings but do not fly.



相片由 Chung Yun Tak 提供
Photo courtesy of Chung Yun Tak

身體結構 Body Structure

鳥類身體各部位名稱

雀鳥的身體結構和人類大不相同，現在讓我向大家介紹一下牠們的身體結構。野生鳥類有很多品種，不同種類的雀鳥有着不同顏色和特徵。大家一起細閱以下插圖，齊來認識牠們身體的基本結構及各部位的名稱吧！



Names of a bird's body parts

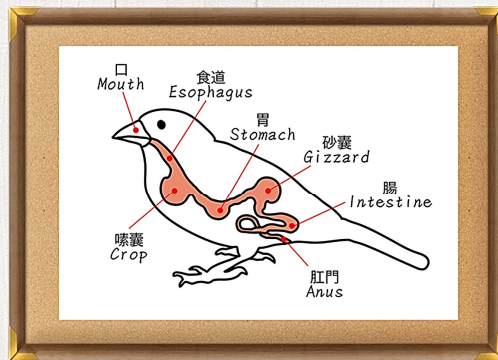
The body structure of birds differs greatly from that of human beings. Let me introduce to you their body structure. There are a myriad of bird species on earth, each having different colours and characteristics. Look at the illustration above. It will give you an idea of their basic body structure and the names of their body parts.



雀鳥的消化系統 Digestive System of Birds

野生雀鳥飛行需要消耗很多能量，因此牠們的新陳代謝率很高，消化力也很強，有時會被形容為「直腸直肚」。牠們沒有牙齒，進食後食物會先經過食道進入嗉囊，以暫時保存食物並使食物變軟。食物會進入胃部，其中砂囊有強壯的胃壁，幫助磨碎食物。野生雀鳥的腸道較哺乳類動物短，吸收也比較有效率，不會貯存糞便。這有助於飛行時減少消耗能量和減輕重量。

Wild birds use a lot of energy to fly, so they have a high metabolic rate and a strong digestive power, sometimes described as "rectal". They have no teeth, and after feeding, the food will first pass through the canal and enter the crop to temporarily preserve and soften the food. Food goes into the stomach, where the gizzard has a strong stomach lining that helps grind the food. The gut of wild birds is shorter than that of mammals, the absorption is more efficient, and they do not store feces. This helps reduce energy consumption and weight when flying.



鳥類不同喙部的功能

你們有否留意到，不同野生鳥類，喙部也不一樣嗎？這是由於牠們的棲息地方不同，所以覓食方法和食物也有不同。



小麻雀的喙部短而厚
The beak of the Eurasian Tree Sparrow is short and thick.
相片由 Christina YIM Chan 提供
Photo courtesy of Christina YIM Chan



小白鷺的喙又長又尖如匕首
The Little Egret has a long, sharp beak that resembles a dagger.
相片由 Christina YIM Chan 提供
Photo courtesy of Christina YIM Chan



黑鸞喙部呈倒勾狀
The Black Kite has a hooked beak.
相片由 Christina YIM Chan 提供
Photo courtesy of Christina YIM Chan



反嘴鹮喙部向上彎
The beak of the Falcated Avocet curves upward.
相片由 Christina YIM Chan 提供
Photo courtesy of Christina YIM Chan



叉尾太陽鳥喙部下彎
The beak of the Fork-tailed Sunbird bends downward.
相片由 James Kwok 提供
Photo courtesy of James Kwok



黑臉琵鷺喙部末端是勺形
The Black-faced Spoonbill has a spoon-like beak.
相片由 Kinai Ho 提供
Photo courtesy of Kinai Ho

Functions of different types of bird beaks

Have you noticed that the shape of beaks varies among different wild bird species? This is because as they live in different habitats, they have different foraging tactics and food.





雀鳥的食物 Foods for birds



喜歡吃花蜜的鳥類
Birds that love nectar



叉尾太陽鳥
Fork-tailed Sunbird
攝影: Henry Lui 提供
Photo courtesy of Henry Lui



暗綠繡眼鳥
Japanese white-eye
攝影: Chung Yui Tai 提供
Photo courtesy of Chung Yui Tai



喜歡吃果實的鳥類
Birds that love fruits



紅耳鶉
Red-whiskered Bulbul
攝影: Chung Yui Tai 提供
Photo courtesy of Chung Yui Tai



黑臉噪
Masked Laughingthrush



喜歡吃種子的鳥類
Birds that love seeds



珠頸斑鳩
Spotted Dove
攝影: Della Liang 提供
Photo courtesy of Della Liang



樹麻雀
Eurasian Tree Sparrow
攝影: Chung Yui Tai 提供
Photo courtesy of Chung Yui Tai



喜歡吃昆蟲的鳥類
Birds that love insects



鵲鴝
Oriental Magpie Robin
攝影: Haila Tse 提供
Photo courtesy of Haila Tse



白頭鶉
Chinese Bulbul
攝影: Chung Yui Tai 提供
Photo courtesy of Chung Yui Tai



喜歡吃魚的鳥類
Birds that love fish



池鷺
Chinese Pond Heron
攝影: Chung Yui Tai 提供
Photo courtesy of Chung Yui Tai



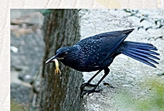
黑臉琵鷺
Night Heron



喜歡吃兩棲類、爬蟲類、
小型鳥類的鳥類
Birds that love amphibians,
reptiles and small birds



黑鷹
Black Kite
攝影: Chung Yui Tai 提供
Photo courtesy of Chung Yui Tai



紫嘯鶇
Blue Whistling Thrush
攝影: Christine Yik Chan 提供
Photo courtesy of Christine Yik Chan

甚麼是食糞?

以種子為主食的鳥類，砂囊特別發達，強壯的胃壁能幫助磨碎食物。而肉食性的鳥類，由於無法消化骨頭及羽毛，吃下的獵物會在砂囊變成食糞再吐出來。

What is a pellet of casting?

Seed-feeding birds have particularly developed sacs and a strong stomach wall that helps grind food. As carnivorous birds cannot digest bones and feathers, the eaten prey will turn into a pellet of casting in the sac and then be spat out.

正在吐食糞的普通翠鳥
A common kingfisher regurgitating a pellet of casting.
攝影: Chempansoo Chan 提供
Photo courtesy of Chempansoo Chan



普通翠鳥吐出的食糞
A pellet of casting spat out by common kingfishers
攝影: Chung Yui Tai 提供
Photo courtesy of Chung Yui Tai





雀鳥的排泄 Droppings of Birds

直腸直肚的意思？

前面提到鳥類的消化系統，你們有否留意到鳥類只有一個肛門用作排泄？

鳥類其實是一種單孔目動物。顧名思義，牠們沒有分開的尿道、肛門及產道，而是由統一的泄殖腔代替。由於是從同一個孔道排出體外，尿液和糞便常常是混合在一起的。用於提供大量能量的蛋白質經消化後會產生一種難以溶於水的最終產物——尿酸。在常被人誤以為是鳥糞的東西裏面，呈白色及半固體半液體狀態的是尿液，而顏色較深且呈固體形態的多是真正的糞便。



What does “having straight guts” mean?

We have mentioned the digestive system of birds. Have you noticed that birds only have one anus for excretion?

Birds share the features of monotremes. As the name suggests, they do not have separate urethra, anus and birth canal, but are replaced by a unified cloaca. Because it is excreted from the same orifice, urine and stool are often mixed together. The proteins used to provide large amounts of energy are digested to produce a water-insoluble end product, uric acid. Inside what is often mistaken as guano, the whitish semi-solid semi-liquid part is urine. And the darker and solid-like part is mostly real feces.

某些鳥類的糞便能製成中藥？

Can the droppings of certain birds be made into traditional Chinese medicine?



白丁香 (麻雀的糞便)
功效：治療疝氣、目翳等疾病
White cloves (sparrow's droppings)
Efficacy: Treatment of hernia, eye and other diseases



夜明砂 (蝙蝠的糞便)
功效：治療夜盲症、青光眼及白內障
Nocturnal sand (bat droppings)
Efficacy: Treatment of night blindness, glaucoma and cataracts



雞矢白 (雞的糞便)
功效：治療鼓脹、黃疸等
Chicken Ya White (chicken droppings)
Efficacy: Treatment of bulging, jaundice, etc.





雀鳥的視覺 The vision of birds

你們知不知道鳥類的視覺和人類有什麼不同呢？

野生鳥類的視覺十分發達，大部分鳥類在覓食過程中主要依賴視覺。人類的眼睛長在頭部前方，水平視野最闊只有約240度，而很多鳥類的眼睛長在頭部兩側，視野廣闊，但眼球轉動的範圍就有限制，不像人類的 eyeball 可以轉動，然而牠們有靈活的脖子可以彌補不足。

Do you know how the vision of birds differs from that of humans?

Birds have very well-developed vision, on which most of them depend for foraging. Human eyes are at the front of the head, with a maximum visual field of about 240°. The eyes of most birds are located at the sides of the head to allow a broader vision. Nevertheless, unlike humans, their eyeballs have limited movement. Fortunately, this restriction is overcome by a flexible neck.



鳥眼的獨特構造

鳥類時常飛行，遇上大風大雨的惡劣天氣時，牠們怎樣可以看清前方呢？

鳥類有一個獨特的構造是人類沒有的，就是鳥眼有瞬膜。當牠們飛行時，瞬膜可以覆蓋眼球，保護眼睛免受風沙傷害，但卻又不會影響視力，就像人類汽車的擋風玻璃一樣。有些鳥類經常衝入水中捕捉獵物，例如翠鳥。翠鳥會以瞬膜覆蓋眼睛，就像人類游泳時戴泳鏡保護眼睛，這樣在水中便能擁有清晰的視野捕捉獵物。

The unusual feature of bird eyes

Birds always travel by flight. What if there is a heavy storm on the way? How can birds see clearly?

Bird eyes have an unusual feature called the nictitating membrane, which is not found in human eyes. The nictitating membrane can cover and protect their eyes from wind and grit while they fly without blocking their vision. It acts like the windshield of a car. Birds like Kingfishers, who dive into water frequently to hunt for prey, also protect their eyes with the nictitating membrane. It is similar to humans wearing goggles when swimming. By doing so, Kingfishers can maintain a clear vision under water to catch their prey.



斑魚狗的瞬膜

The nictitating membrane of the Pied Kingfisher

相片由 Kinni Ho 提供
Photo courtesy of Kinni Ho



褐魚鴉的瞬膜

The nictitating membrane of the Brown Fish Owl

相片由 Kenneth Lam 提供
Photo courtesy of Kenneth Lam



鳥類的羽毛 Feathers of Birds

保護鳥類的衣裳

羽毛對鳥類十分重要，你知道牠們怎樣保養羽毛嗎？

人類見到雀鳥時常梳理羽毛，因為牠們需要好好保護這層外衣，把羽毛保持在最佳狀態。羽毛每天抵受風吹、日曬和雨淋，很容易會磨損和變得凌亂。因此雀鳥會抖動全身，使羽毛聳起，然後轉動身體，讓羽毛重新排列整齊。鳥類日常又會用嘴喙從尾脂腺沾取油脂分泌，塗抹於全身羽毛，以維持羽毛的防水功能。鳥類的羽毛結構還有一點頗為獨特，要用顯微鏡才能看到，就是羽毛末端有一個羽小鉤。羽小鉤能使鳥類的羽小枝互相鉤連，令羽枝排列整齊嚴密，有時候鳥類梳理羽毛就是要讓羽小枝重新鉤合起來。

Maintenance of bird feathers

Feathers are very important to birds. Do you know how they maintain their feathers?

Birds are often seen grooming themselves. This is because they must keep their plumage in best conditions at all times. Feathers easily get impaired and tangled with daily exposure to wind, sunlight and rain. They wiggle and shake their bodies to rearrange the feathers and make them neat again. They also extract the oil secreted by the uropygial gland and wax their feathers with the beak to keep the plumage waterproof. Another special feature only observable under the microscope is the hooklets at the tip of their feathers. The hooklets hook barbs together so that they are arranged in an orderly fashion. By grooming their feathers, the loosened barbs are hooked together again.



環頸鵒抖動全身羽毛

A Kentish Plover wiggling its body to rearrange the feathers

相片由 James Kwok 提供
Photo courtesy of James Kwok



普通燕鵒梳理羽毛

An Oriental Pratincole grooming itself

相片由 Christina YM Chan 提供
Photo courtesy of Christina YM Chan

樹麻雀是如何洗澡的？

樹麻雀除了跟其他鳥類一樣會用水幫自己洗澡，牠們也會在公園的沙地進行熱沙浴，目的是將身上的寄生蟲除去。樹麻雀會窩在大小不一的坑洞裡，隨後開始打滾、抖動身體，並透過沙土帶走羽毛上多餘的油脂和水分，達到淨身的目的。其實大部分的野鳥都有洗澡的習慣，為了避免羽毛結構被破壞而影響飛行，牠們都會自己找方法清除污垢以及身上的寄生蟲。

How do tree sparrows bathe?

Tree sparrows, like other birds, use water to clean themselves. They also take hot sand baths in the parks in order to remove parasites from the body. Tree sparrows will squat in potholes of various sizes, and then start rolling, shaking, and removing excess grease and moisture on the feathers with the sand, so as to achieve body cleansing. In fact, most wild birds have the habit of bathing. In order to avoid damaging feather structures and hence their flights, they will find their own ways to remove dirt as well as parasites on the body.



相片由 Chung Yun Tak 提供
Photo courtesy of Chung Yun Tak

