

像是知道有鏡頭似的，紅隼盡情展現雄壯之姿 / 陳承光攝
The Common kestrel strikes a pose for the camera / by Cheng-guang Chen



空中世界的主宰者

深秋鷹揚

Raptors in the Autumn Sky

The Kingdom Reigned by Birds of Prey



晴空下，秋風起，以王者之姿盤旋於天際的鷲鷹，總是我們仰頭注目的焦點。因為像鳥類一樣展翅高飛，是人類永恆的夢想，而猛禽，就是空中世界的主宰者。有不少國家的國旗、錢幣以其為圖騰，崇敬之意，已是不言而喻。牠們身形孤寂，是優美、力量及珍貴三種價值的綜合體。

在全世界9000多種的鳥類中，猛禽類不到500種。牠們生殖率低，成熟速度較緩慢，在種類及數量上都相對的少。牠們位居食物網的頂端，有著廣大的活動範圍，是反映棲地環境及其是否健康或異常的指標性物種。

如果翻開鳥類圖鑑，可以發現猛禽的名稱還不少。在陽明山國家公園管理處菁山自然中心工作，從事猛禽研究超過20年的黃光瀛博士，提供了簡單的分辨方式。一般說來，鷲鷹類多屬日行性猛禽，鴟鵂類多屬夜行性猛禽，目前在台灣可看到的各約為32種及12種。牠們又可分為候鳥，如紅隼；過境鳥，如灰面鵟（灰面鷲）；留鳥，如大冠鷲、鳳頭蒼鷹等。

完美的空中獵王

既然稱為猛禽，其構造上有何特殊之處？首先是眼睛，視力一流，以鷲為例，其解析度為人類的數倍；居高臨下並配合極佳的視力，讓牠們尚未出手就展露出霸王之氣。再來是喙部，尾端多呈鉤狀、非常尖銳，便於撕裂肉塊。猛禽的腳強壯結實，握力大，末端的爪子彎曲銳利，再加上飛行速度快（遊隼的俯衝時速甚至達300公里），這些長久演化而來的武器，讓牠們更善於獵捕及進食。

Like the king of the Autumn sky, eagles soaring in the heavens always catch our eyes. Mankind has always dreamed of spreading the wings and flying in the sky – the kingdom reigned by raptors. The images of eagles are featured on many countries' national flags and currencies since these lone creatures are the symbol of elegance, strength, and rareness.

There are less than 500 species of raptors out of the entire 9,000 bird species in the world. Raptors have low reproduction and growth rate, thus they number of breeds and population is relatively low. Being at the top of the food chain, they have wide activity areas, making them the indicator species that reflects the condition of their habitats.

Raptors actually have many different names. Dr. Kuang-ying Huang who has studies raptors for more than 20 years in Yangmingshan National Park (YMSNP) taught us how to distinguish them. In Taiwan, generally, the 32 species of falconiforms are mostly diurnal raptors, and the 12 species strigiforms are mostly nocturnal. These species can be further divided into migratory birds (ex: *Falco tinnunculus*), passage birds (ex: *Butastur indicus*), and resident birds (ex: *Spilornis cheela* and *Accipiter trivirgatus*).

Perfect Aerial Hunter

So what are raptors' anatomical advantages? First of all, raptors have excellent visions. Take Buzzards for example; their visual resolution is many times better than human's, giving them dominating air superiority. Their beaks are mostly hook-shaped and are extremely sharp for tearing flesh. Their claws are strong, powerful, and sharp at the tip. Combined with their amazing speed (*Peregrine falcons'* diving speed can reach 300 km/h), these tools give them an advantage in hunting and feeding.

As for nocturnal raptors, or commonly known as owls, hearing is their strongest weapon. An owl's ears

黃光瀛博士簡介 About Dr. Kuang-ying Huang

台灣大學生態學與演化生物學研究所博士，美國密西根州立大學漁業暨野生動物所碩士，大學時代曾先後在中興大學受過森林系及獸醫學系洗禮，1984年成立全台灣第一個校園自然生態保育社並任社長。長期投入猛禽的保育及野生動物研究。目前任職於陽明山國家公園保育研究課。曾為執業獸醫師、自然主義者、釣手、獵人，著有《台灣野鳥圖鑑》。

Huang received his Ph.D degree from the Institute of Ecology and Evolutionary Biology, NTU and a master degree from the Department of Fishery and wildlife, Michigan State University. Educated in the department of forestry and veterinary medicine NCHU, Huang established the first campus ecology conservation club in Taiwan in 1984 and worked as the first chairman. Huang has devoted his life to the conservation and research of raptors and wildlife, and is currently working in YMSNP's conservation and research section. He was a veterinarian, naturalist, angler and hunter. His works includes "A Field Guide to The Birds of Taiwan"



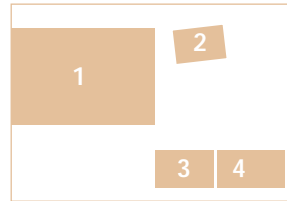


對於俗稱貓頭鷹的夜行性猛禽來說，聽力就是其強項了。牠的耳朵可以將周圍傳來的聲音立體化而精準測出距離與定位，同時，特殊的羽毛構造又讓自己飛行時幾乎不發出聲音。因此，可以在完全黑暗的狀況下，無聲的接近獵物，迅速將其捕殺，可憐的小動物，就是在這種毫無準備的情況下，一命嗚呼。

在威猛壯碩的形體之外，猛禽最吸引人的還是其高超的飛行能力。因應不同的體型及活動地區，不同的猛禽有其專精的飛行技巧，甚至，也為牠們贏得名實相符的綽號。例如體型龐大的大冠鷲，展翅可達130公分，是空中滑翔、盤旋的高手，在鷹群中算是轟炸機。而松雀鷹、鳳頭蒼鷹體型較小，翼形寬圓，善於在林間穿梭，身手猶如靈活的戰鬥機，至於在曠野中以高速獵食的遊隼，有著狹尖的翅膀，攔截機的名號，當之無愧。

can turn audio inputs into a 3D presentation with accurate distance and orientation information. Also, its special feather structure makes silent flight possible. Therefore, an owl can silently approach a prey in complete darkness and quickly go for the kill. Completely unprepared, its preys will never know what hit them.

Aside from their superior physique, raptors fascinate us with their aerial capabilities. Adapted to different physical limitations and areas of activity, different raptors have their own flying skills, or sometimes even named after their aerial features. Take the huge *Spilornis cheela* for example; its wing span reaches 130cm, making it a master of gliding and spiraling – much like a bomber. The smaller *Accipiter virgatus* and *Accipiter trivirgatus* have broad and round wings – much like agile fighters. The fast *Falco peregrinus* have narrow and sharp wings, making them excellent interceptors.



1. 將獵物緊抓在手後，魚鷹揚翅而去 / 陳承光攝
After grasping the prey firmly with the talons, the *Pandion haliaetus* flies away / by Cheng-guang Chen
2. 黃光瀛正從事猛禽繫放田野工作 / 黃光瀛提供
Huang was working on raptor banding in the field. / provided by Kuang-ying Huang
3. 深色型的東方蜂鷹幼鳥正在巢中練飛 / 黃光瀛攝
The dark phase Oriental Honey Buzzard (*pernis ptilorhynchus*) on the nest. / by Kuang-ying Huang
4. 蘭嶼角鴞是台灣特有亞種的貓頭鷹 / 黃光瀛攝
Otus elegans botelensis / Kuang-ying Huang

就像鯊魚是海洋裡天生的獵食之王，猛禽特殊的生理構造，將牠推上了獨霸空中的位置。但非常諷刺的，這樣完美的獵食者，卻面臨了極大的生存威脅。黃博士沉痛的表示，「這不是天擇，而是人擇。再完美的生物，也過不了人類這一關。」

落難悲歌

首先是棲地被破壞，人類超量開發土地，不但造成原始地貌改變、也影響食物供給，直接衝擊了猛禽的生存環境。再來是農藥及殺蟲劑的濫用。這些難以分解的化學毒素在食物鏈的層層累積下，越來越多，最後全數進入猛禽體內。此外，還有人類的濫捕。其中，有的被製成標本，有的被關入籠中豢養，兩者雖有生死之別，命運卻同樣悲慘。想想看，一隻原本該在天際遨翔、活動範圍遼闊的大鳥，卻被困在一個窄小鐵籠中，可能連將翅膀伸直的空間都沒有，這畫面看了怎不教人難過？

當然，還是有努力的人類。設於南投集集的農委會特有生物保育研究中心，就收留了不少落難猛禽。本身是獸醫師的黃博士，也曾緊急救治過受傷中毒者，而各地

Just as sharks are the king of the sea, raptors' unique anatomical structure makes them the king of the sky. Ironically, these perfect hunters are now facing graving survival threats.

Huang said with a deep sense of grief, "This is not natural selection. This is 'human selection.' Animals, no matter how perfect they are, are still being pushed to extinction by us."

Tragic Misfortune

First of all, wildlife's habitats are being damaged due to mankind's over-cultivation that changes landscapes, affects prey supply, and directly impacts raptors' survival environment. Second, humans overuse pesticides and insecticides, which continue to accumulate by the food chain and eventually inside raptors. Raptors are also being hunted down by humans in great numbers, often ended up dead or in cages. Think about it: A giant bird that is supposed to fly in the sky is locked in a cage that is too small for the creature to spread the wings. It really hurts us to see this kind of tragedy in person.

Naturally, there are still people out there who are trying to make a difference. Taiwan Endemic Species Research



鳥友義工及獸醫師，更是默默貢獻的一群。但是，為了不讓這些救難行動勢單力薄，保育觀念的普及才是關鍵的基礎大業。

這方面，除了政府執行野生動物保護法、設立國家公園推動相關業務外，民間社團的力量也不容小覷，它們包括了各地的自然保育團體、鳥會、以及台灣猛禽研究會（Raptor Research Group of Taiwan，簡稱RRGT）。不只是國內的保育研究，跨國的合作交流也可見這些民間組織的身影，2003年於墾丁舉辦第3屆亞洲猛禽生態研討會，就是一個成功的例子。

Institute in Nantou is home to many raptors met with misfortune. Being a veterinarian himself, Huang has helped many wounded or poisoned raptors with other volunteers and veterinarians. However, in order to keep these efforts going, public education is the key.

In this regard, efforts from NGO groups are a significant force besides governmental wildlife policies and national park tasks. NGO groups' efforts include local conservation groups, associations, and Raptor Research Group of Taiwan (RRGT). Civil efforts are not only seen in Taiwan's conservation and research but also international collaborations. A perfect example is the 3rd Symposium on Asian Raptor held in Kenting in 2003.





走入野外賞鷹去

保育觀念的落實，教條不得，在於「內在化」。比較好的方式，是讓一般民衆領略猛禽之美，如果能夠欣賞與理解，自然也會珍惜、愛護牠們。黃博士提醒我們，何妨帶著望遠鏡走出戶外，打開心窗、接受野性的呼喚，一起賞鷹去。

以陽明山國家公園而言，理想的觀賞地點包括中正山、大屯山、巴拉卡公路及陽金公路沿線。就時間來說，除了仲夏7、8月較少露面外，春、秋、冬都可以看到這些大鳥。挑一個天氣晴朗的上午，就不難發現牠們乘著上升氣流，展翅雲端的孤獨身影。其中，大冠鷲是台灣留鳥中的代表性的大型猛禽，全身呈黑褐色，翼下及尾部有一條特徵性白帶，寬大的翼幅能讓牠長期在天空盤旋，除了領域宣示外，也有求偶的功用，用心聽過大冠鷲天際孤鳴，應能體會這種「來自荒野的聲音」。

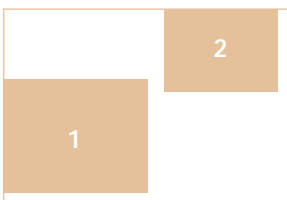
如果要賞壯觀的遷移場面，就要留意適當的季節及地點。一般來說，春季的陽明山、觀音山、八卦山，以及秋季的新竹尖石鄉、墾丁社頂、滿州鄉等，都不會讓造訪者失望。校閱軍容壯盛的鷹群，還有一幕不可錯

Eagle-gazing in the Wild

The only way for conservation to take root is for it to be “internalized” by the public. One way to achieve this is to help the public appreciate raptors’ beauty by understanding them. Huang reminded us that one way is to go into the wild and view their beautiful images through a pair of binocular.

In Yangmingshan, the good spots for viewing raptors include the highways around Mt. Zhongzheng, Datun, and Balaka and Yang-chin Highway. Except seldom spotted in July and August, raptors can be easily seen in the rest of the seasons. In a sunny morning, it is not difficult to see them ride the upward current and soaring in the sky. Among these creatures, *Spilornis Cheela* is the most well-known resident bird in Taiwan. Its entire body is black-and-brown, with a distinctive white stripe under its wings and on its tail. Its wide wingspan not only allows it to circle in the sky extensively but also helps it in courtship. If you listened carefully to the sound it makes, you would understand this “most natural sound.”

If you would like to see the magnificent sight of bird migration, you need to know the appropriate seasons and locations. Generally, they can be seen in Yangmingshan, Mt. Guanyin, and Mt. Bagua, in spring and Hsinchu’s Jian-



1. 黑鷲(俗稱老鷹)展現豔麗的雙翼及尾翼，振翅而上 / 陳承光攝

Black kite (*milvus migrans*) shows its beautiful wings and tail wing as it flies upward / by Cheng-guang Chen

2. 蕭瑟的秋芒提醒我們應用心體會「來自荒野的聲音」 / 戴進元攝

The chilly Autumn Mans remind us should be carefully to the sound it makes, you would understand this “most natural sound.” / by Jin-yuan Dai

過——牠們會在天空以幾近垂直的角度下衝，這就是所謂的「落鷹」。每年9、10月，以灰面鵟、赤腹鵟為主的過境猛禽，已成為恆春半島的年度盛事。根據墾丁國家公園蔡乙榮技士長年的統計，每年過境數量在10萬隻以上，足以進入已知世界級賞鷹觀測點的前10名了，而這還是指藉由肉眼的推估值，墾丁處委託研究以雷達探測，推估數量將是目視數倍之多。

這樣的榮景能維持多久呢？不知道。但由於地球暖化及環境的變遷，台灣猛禽的生態確實產生了變化，黃博士指出了近年來的幾個重大趨勢：1. 日行性猛禽與夜行性猛禽的分界日趨模糊化，如黑翅鳶。2. 過境猛禽留棲化，如東方蜂鷹本為候鳥，現在漸漸成為留鳥。3. 深山猛禽郊山城市化，如鳳頭蒼鷹。原來在曠野中活動、在懸崖上用餐的遊隼，竟在市區中捕獵鴿子，並在高樓的窗台將之宰食——牠把高樓當作懸崖峭壁，而且也習慣了都市的燈光，藉此來捕食夜間飛過的獵物。

shih Village, Kenting's Sheding and Manchou Township in autumn. One thing not to be missed is the eagles diving towards woods almost perpendicularly – known as the “diving raptors.” In every September and October, migratory raptors such as *Butastur indicus* and *Accipiter solensis* can be seen in Hengchun. According to the statistics by Yirong Tsai (KTNP), more than 100,000 migratory birds pass Hengchun, making this area in the top-10 list of world-class raptor-gazing locations. The actual number is a lot greater when measured by radar.

How long can this magnificent sight last? No one can tell. Due to global warming and environmental changes, Taiwan's raptor population is undergoing several changes as pointed out by Huang: 1. The blurry boundary between diurnal and nocturnal raptors (such as *Elanus caeruleus*). 2. Migratory birds become resident birds (*Pernis ptilorhyncus*). 3. Raptors being adapted to urban settings. For example, *Accipiter trivirgatus* used to feed in cliffs, but they now hunt pigeons in city areas and feed in high-rise balconies. They are also used to urban light and use it for hunting.





由於台灣的位置特殊，地處鳥類遷徙的重要航道上，如果民眾手下不留情，那麼，猛禽族群遭受的損害程度也是驚人的。然而，重要過境地滿州鄉民的捕獵灰面鵟現象，除了生計因素，還涉及了複雜的對抗心理，執法者與其和這些獵人們捉迷藏，如能將之納入生態旅遊的體系內，協助轉型，以創造鷹、居民、政府三贏。因為，「最好的獵人，也是最佳的生態解說員」，黃博士如是認為，「因為他們知道鷹的想法。」

今日猛禽，明日人類

對人類而言，消滅猛禽很容易，但要再復育，卻得耗費數倍的時間。美國的白頭海鵰，就是經過數十年的努力，才能恢復生機。在鳥界流傳著一句名言——「今日猛禽（鳥類），明日人類」，意思是現在猛禽所遭遇的問題，不久人類都將面臨到；我們對待猛禽的態度，其實也決定著我們的未來。

兩千多年前，莊子就對大鵬鳥發出了這樣的觀察與讚嘆：「…背若太山，翼若垂天之雲，搏扶搖羊角而上者九萬里，絕雲氣，負青天…」

這不該是絕響，讓美麗的天行者，繼續展翅於蒼穹之中吧！

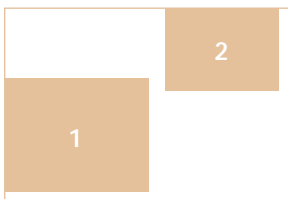
Taiwan is a critical stop in birds' migratory routes, and the raptors' survival is seriously threatened if they are hunted down by people in Taiwan. However, the people in Manchou Village hunt *Butastur indicus* not only for economical reasons but also a sense of rebellion. If the government can work with the villagers by including the raptors as part of the ecotourism system, it will be beneficial for nature, locals, and the government. Huang believes that "the best hunter should be the best ecotour guide," because they knew these raptor's thought."

Their Suffering Today is Our Fate Tomorrow

The time it takes us to restore raptor population makes the time it takes us to exterminate them looks like a split second. Decades of effort are required, thus there is a saying in the bird society: "Today raptors; tomorrow humans." This means that the problems they suffer today may become our fate tomorrow. Our attitude towards raptors also determines our own future.

Two thousand years ago, Chuang Tzu expressed his feelings towards the raptors, "Its back is like a grand mountain, with wings like clouds hanging in the sky. It soars high up into the heavens and through the clouds..."

Raptors' beauty should not be something in the history books. Let us help these beautiful celestial beings continue to spread their wings in the heavens.



1. 即使落地而下，魚鷹仍展其壯碩的雙翼 / 陳承光攝
Flying towards the ground, the *Pandion haliaetus* spreads its mighty wings. / by Cheng-guang Chen
2. 大冠鷲有著典型猛禽炯明的眼神及銳利的喙 / 黃光瀛攝
Spilornis cheela has keen eyes and sharp beak like other raptors. / by Kuang-ying Huang