

Focus on Hong Kong Bats: Their Conservation and the Law

香港蝙蝠概論： 蝙蝠的保育與法律



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Lesser Bamboo Bat 扁顛蝠

produced by
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What Are Bats?

蝙蝠小檔案

Human fear of the unknown and long standing misconceptions have resulted in bats being one of the world's most misunderstood animal groups. They are considered mysterious because of their nocturnal lifestyle.

- Bats are hunted for food, appear in Chinese traditional medicine and wine and are seriously affected by landuse changes resulting in habitat loss and destruction of their daytime roosts.
- Bats make up about 20% of all mammal species and are the only mammals capable of true flight
- There are nearly 1,000 bat species, the largest having a wingspan of over two metres, and the smallest weighing only 1½ grams, with a wingspan of less than 20cm.
- Bats are beneficial creatures as they eat many kinds of harmful insects. Furthermore, many plants and trees rely on fruit bats to pollinate their flowers and disperse their seeds, a relationship that is fundamental to the health of tropical ecosystems.
- With more understanding, we can learn to love and respect these fascinating but shy creatures that need our protection!

人們對陌生事物的恐懼和長久以來的偏見使蝙蝠成為全球最常被誤解的動物之一。由於蝙蝠晝伏夜出，因而常給人神秘莫測的感覺。

- 自古以來，除食用外，蝙蝠，也是入藥和製酒的材料。生境損失引致的地貌改變，加上日間的棲所大受破壞，使蝙蝠受到嚴重影響。
- 蝙蝠約佔所有哺乳類動物的兩成，也是唯一可以飛行的哺乳類動物。
- 全球約有1,000種蝙蝠。最大的翅幅超過兩米，最小的翅幅少於20厘米，只重1.5公克。
- 由於蝙蝠以捕食害蟲維生，因此是公認的益蟲。此外，很多植物或樹木都依賴果蝠授粉和播種，這種關係是維持健康熱帶生態系統的基本要素。
- 蝙蝠生性害羞，卻別具吸引力，透過深入對蝙蝠的了解，我們可以學會愛惜和尊重這些極待保護的動物。

Bats are:

- intelligent, social, flying mammals
- more closely related to small insect eating mammals than to rodents (rats, mice)
- long lived – up to 30 year lifespan, but low reproducers – normally only one baby born to a mother bat each year
- mammals, giving birth to live young and suckling them with milk.
- excellent navigators – insect feeding bats use ultrasonic echolocation to find prey and to avoid bumping into objects - fruit bats have excellent vision and sense of smell.



Japanese Pipistrelle 扁蝠



Brown Noctule 山蝠

蝙蝠是：

- 有智慧的飛行性哺乳類動物，習慣群體生活
- 小型食蟲哺乳類動物的近親，而非齧齒目動物(如大鼠和小鼠)的近親
- 長壽動物 —
壽命可長達30年；但繁殖率低，母蝠每年一般只生產一隻小蝙蝠
- 胎生哺乳類動物，以母乳餵哺小蝙蝠

卓越的導航員—

蝙蝠捕食昆蟲時利用超聲波回聲定位，避免意外撞向障礙物

Bat Basics 蝙蝠的基本資料

- One pipistrelle bat (4cm long) can consume over 4,000 small insects each night; this might include agricultural pests and carriers of disease.
- Fruit bats disperse many trees as they spread seeds in their droppings during flight.
- The droppings, or guano, produced at insectivorous bat roosts can be used as high grade fertilizer for horticulture. These are dry and will crumble into a fine powder when crushed.
- Bat wings consist of skin, supported by arms and elongated fingers



Greater Bent-winged Bat 大長翼蝠

- 一隻伏翼蝙蝠(4厘米長)每晚可進食超過4,000隻小昆蟲，其中可能包括農作物害蟲和帶菌昆蟲)。
- 果蝠飛行期間，會把不能消化的種子排泄出來，藉此為樹木傳播種籽。
- 食蟲蝙蝠棲所內的糞便是優質的園藝肥料。乾爽的蝙蝠糞在弄碎後會呈粉末狀。
- 蝙蝠的翅膀由皮膚組成，由雙臂及修長的手指支撐。

Historically, bats would have utilised old trees and caves as daytime roosts and foraged in the forests. With the loss of primary forest and human encroachment into the remaining habitats, many species have adopted man-made structures as daytime roosts and forage over disturbed habitats. Consequently conflicts have evolved with man.

1. Bats utilise buildings for their roosts
 - If bats roost in a building, they should be left alone (see Bats and the Law). Although they may be unwanted guests they assist in controlling local mosquito and agricultural pest populations (see Bat Basics). Advice should be sought if bats are seen as a nuisance.
2. Some fruit bats feed on agricultural fruit crops such as longan or lychee
 - Inexpensive netting can be placed to protect orchards. The netting must not be too fine, though, as this will trap and kill bats and birds, which is an illegal act.
3. Bats are considered a hygiene issue when large piles of bat droppings (guano) accumulate.
 - Good ventilation will prevent a buildup of bacteria and fungi. A layer of plastic sheeting placed below the roost site will allow the guano to be safely removed from the building. Reports of humans contracting bat-associated diseases are very rare.
4. Bats may enter buildings or apartments by accident, often while chasing moths that have been attracted to building lights.
 - Opening windows and balcony doors will help bats find their way back outside. If this does not work, call for advice and assistance from the HK SPCA (see Further Information).

As bats are traditionally represented in Chinese culture as omens of good luck and fortune, their presence in historical buildings could be incorporated in the visitor experience, connecting cultural heritage with natural heritage and highlighting the long and misunderstood relationship these creatures have had with man!

以往，蝙蝠主要棲息在古老大樹和山洞及在樹林裏覓食。不過隨著原始林逐漸消失和人為的生境侵佔，許多蝙蝠都會把人工環境當作日間棲所及在附近地方覓食。因而和我們形成以下的衝突。

1. 蝙蝠在建築物內棲息



Traditional Study Hall, with bats roosting on beams inside roof (insert)
傳統的書齋，可見蝙蝠棲於橫樑上(插圖)。

- 如蝙蝠棲息在建築物內，應容許牠們繼續在內生活(請參考「蝙蝠與法律」)。牠們能控制附近的蚊子和其他農業害蟲的數量(請參考「蝙蝠的基本資料」)。如蝙蝠造成滋擾，請尋求協助。
- 2. 一些蝙蝠以龍眼或荔枝等農作物作為糧食
- 可購買價格相宜的網罩來保護果園，但網孔不能太小，否則蝙蝠或鳥類會被纏住甚或死亡，而這樣做亦屬違法。
- 3. 蝙蝠糞堆積如山，影響衛生
- 良好的通風條件有助預防細菌滋生。在蝙蝠棲所下方鋪墊一層膠膜，有助妥善清理蝙蝠糞。然而，人類受蝙蝠感染的病例也很罕見。
- 4. 蝙蝠為追逐被燈光吸引而闖入建築物的飛蛾，不自覺地飛進該幢建築物或樓宇
- 打開窗戶及露台門有助蝙蝠找對出口。否則，可尋求香港愛護動物協會的指引及協助(請參考參考文獻及網上資源)。

蝙蝠在中國文化中寓意吉祥與福氣。蝙蝠刻在古老建築物的傳統，突顯了人類與蝙蝠長久而不為人所知的微妙關係，這一傳統建築值得融入旅遊體驗當中。

Bats in Chinese Culture

- A peach tree symbolizing fertility is surrounded by five bats. To the bearer of this symbol there is the promise of health, wealth, happiness, longevity and a peaceful death.
- Chinese traditions portray the bat as a symbol of good fortune and happiness!
- 'Fuk su' in the Cantonese dialect means 'rat of luck'
- A pair of bats with two butterflies is a symbol of marital bliss on gifts to newly weds!

Photos: bat motifs from temples and ancient buildings



從中國文化看蝙蝠

- 桃樹喻意開枝散葉，四周圍着的五隻蝙蝠，代表五福臨門，祝願人享盡福、祿、壽、康、寧五福。

- 自古以來，蝙蝠在中國象徵富貴吉祥！
- 廣東話中的「蝠(福)鼠」意指「祥瑞的老鼠」。
- 一雙蝙蝠配以兩隻蝴蝶，代表祝福新婚夫婦白頭偕老！

圖片：廟宇和古蹟上的蝙蝠圖案



Helping Bats: Conservation

救助蝙蝠：蝙蝠保育

- Natural roost sites – caves and abandoned mines – can be protected by making them inaccessible to people, using grill gates that still allow bats access.
- Bat feeding habitats like forests and wetlands need to be protected and perhaps enhanced, e.g. by native tree planting and management.
- Increased awareness of the benefit of bats in helping to control mosquitoes and other pests will assist the popularisation of bats.
- The habit of eating bats in some parts of China may be illegal and is certainly unsustainable as individual cave roost sites can be completely wiped out almost overnight by intensive trapping. This activity should not be encouraged.



Chinese Horseshoe Bat
魯氏菊頭蝠



Short-nosed Fruit Bat
犬蝠

- 除了裝置蝙蝠箱外，也可在山洞及礦洞等天然棲所加裝欄柵，以防人為干擾。
- 保護蝙蝠的覓食地，例如濕地及樹林。透過種植本地樹種向管理也可改善牠們的覓食環境。
- 提高公眾對蝙蝠的認識，讓他們明白到蝙蝠能有效控制蚊子及其他害蟲數量這一優點，使蝙蝠更廣為人接受。
- 國內部分地區一直有食用蝙蝠的習慣，這種行為或屬違法。大規模的捕捉可在一夜間攔滅所有蝙蝠洞，因此進食蝙蝠絕對不能長期持續，此風也不能助長。

Helping Bats: Bat Boxes 救助蝙蝠：蝙蝠箱

- Bat boxes can be used to provide alternative roosts for some bat species, e.g. Japanese pipistrelle and brown noctule.
- Other species, like the Himalayan leaf-nosed bat, may use larger 'bat houses' but are unlikely to use boxes.
- Bat boxes can be used to enhance areas that have been damaged or areas that have no natural roost sites.
- Don't be impatient as bats may take months or even years to adopt these man-made homes.
- See the websites listed at the back of this pamphlet for further information on bat box designs.



Post, wall and tree mounted bat boxes
安裝在桿子、牆壁及樹上的蝙蝠箱

- 蝙蝠箱可為部份蝙蝠物種提供另類棲所，如東亞家蝠和褐山蝠。
- 其他物種如大蹄蝠，則宜使用較大的「蝙蝠屋」，但牠們似乎不太愛在蝙蝠箱內棲息。
- 蝙蝠箱可為部份流離失所的蝙蝠暫時解決棲息問題。
- 對待蝙蝠必須有耐性，牠們可能要花數月甚至數年才能適應這些人造棲所。
- 請瀏覽小冊子背面的網址，查閱更多有關蝙蝠箱構造的資料。

- All bats are protected in Hong Kong under the Wild Animals Protection Ordinance (Cap. 170).
- It is illegal for anyone, without a licence, to intentionally kill, injure or handle a wild bat of any species in Hong Kong.
- It is also an offence to sell or offer for sale any wild bat, alive or dead, without a licence.
- Bats should be offered fuller protection than some other protected wild animals owing to their special requirements for roosting. The Agricultural, Fisheries & Conservation Department of the Hong Kong SAR Government (AFCD) must be notified of any proposed action to remove bats from their roosts. AFCD will provide advice on the most suitable course of action regarding close encounters with bats.
- Where construction or demolition work is proposed to buildings that are known to contain bats, it is necessary to consult the AFCD about legal implications before any work proceeds.

AFCD Report hotline 漁農自然護理署舉報熱線 - 1823

- 香港所有蝙蝠均受《野生動物保護條例》(香港法例第170章)。
- 在香港，任何人士未經書面許可蓄意殺害、傷害或管有任何種類的野生蝙蝠均屬違法。
- 任何未領有牌照之人士售賣或出讓任何野生蝙蝠(不論活體或屍體)均屬違法。
- 蝙蝠對棲所有特別要求，因此較其他受保護野生動物獲得更全面的保護。任何人士擬將蝙蝠驅趕，事前必須知會香港特別行政區漁農自然護理署，該署將就與蝙蝠近距離接觸的事宜建議最適切的行動。
- 若住有蝙蝠的樓宇擬進行建築或拆卸工程，施工前必須向漁農自然護理署尋求法律指引。



illegally erected mist nets result in bat deaths:
the bottom photo shows Himalayan Leaf-nosed bat and Short-nosed fruit bat
引致蝙蝠死亡的非法霧網：
下圖顯示的為大蹄蝠及犬蝠

Further Reading & Resources 參考文獻及網上資源

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Bat Conservation International 國際蝙蝠保育組織

www.batcon.org

Bat Conservation Trust 英國蝙蝠保育基金

www.bats.org.uk

Bat study equipment 蝙蝠研究儀器

www.alanaecology.com

Hong Kong Biodiversity (AFCD) 香港物種探索(漁農自然護理署)
www.afcd.gov.hk/english/publications/publications_con/pub_con_hkbio.html

Porcupine!

www.hku.hk/ecology/porcupine/

AFCD Report Hotline 漁農自然護理署舉報熱線: 1823

SPCA Hotline 愛護動物協會熱線: 27111000

KFBG Fauna Conservation Dept. 嘉道理農場暨植物園動物保育部
tel. 24886192

Hong Kong Bat Checklist

香港蝙蝠一覽表

Species 物種	Roosts 棲所	Status 狀況
1. <i>Pipistrellus abramus</i> 東亞家蝠 Japanese Pipistrelle	B, M, T	C
2. <i>Pipistrellus tenuis</i> 小伏翼 Least Pipistrelle	B, T	U
3. <i>Hypsugo pulveratus</i> 灰伏翼 Chinese Pipistrelle	B	R
4. <i>Nyctalus noctula</i> 褐山蝠 Brown Noctule	B, T	C
5. <i>Scotophilus kuhlii</i> 中黃蝠 Lesser Yellow Bat	B, T	U
6. <i>Miniopterus magnater</i> 大長翼蝠 Greater Bent-winged Bat	M	C
7. <i>Miniopterus schreibersii</i> 長翼蝠 Common Bent-winged Bat	M	unknown
8. <i>Miniopterus pusillus</i> 南長翼蝠 Lesser Bent-winged Bat	M	C
9. <i>Myotis muricola</i> 喜山鼠耳蝠 Whiskered Myotis	M	R
10. <i>Myotis chinensis</i> 中華鼠耳蝠 Chinese Myotis	M	U
11. <i>Myotis ricketti</i> 大足鼠耳蝠 Rickett's Big-footed Bat	M	C
12. <i>Myotis fimbriatus</i> 毛腿鼠耳蝠 Fringed Long-footed Myotis	M	unknown
13. <i>Myotis horsfieldi</i> 霍氏鼠耳蝠 Horsfield's Bat	M	R
14. <i>Myotis daubentonii</i> 水鼠耳蝠 Daubenton's Bat	B, M	R
15. <i>Tylonycteris pachypus</i> 扁顱蝠 Lesser Bamboo Bat	T	C
16. <i>Tylonycteris robustula</i> 褐扁顱蝠 Greater Bamboo Bat	B	R
17. <i>Rhinolophus sinicus</i> 中華菊頭蝠 Chinese Horseshoe Bat	M	C
18. <i>Rhinolophus affinis</i> 中菊頭蝠 Intermediate Horseshoe Bat	M	U
19. <i>Rhinolophus pusillus</i> 小菊頭蝠 Least Horseshoe Bat	M	U
20. <i>Hipposideros pomona</i> 小蹄蝠 Pomona Leaf-nosed Bat	M	C
21. <i>Hipposideros armiger</i> 大蹄蝠 Himalayan Leaf-nosed Bat	B, M	C
22. <i>Chaerephon plicatus</i> 皺唇犬吻蝠 Wrinkle-lipped Free-tailed Bat	B, M	R
23. <i>Taphozous melanopogon</i> 黑鬚墓蝠 Black-bearded Tomb Bat	B, M	unknown
24. <i>Rousettus leschenaulti</i> 棕果蝠 Leschenault's Rousette Bat	M	C
25. <i>Cynopterus sphinx</i> 短吻果蝠 Short-nosed Fruit Bat	T	C

Key索引: B – building建築物; M – caves, mines, tunnels山洞、礦洞、隧道; T – trees樹木

C – common普遍; U – uncommon不普遍; R – rare稀有

資料來源: Ades & Kendrick (2004), Shek (2004), Shek & Chan (2005a, 2005b, 2006)

KFBG Information

Kadoorie Farm & Botanic Garden (KFBG) is a charity based in Hong Kong, with a tradition of agricultural aid dating back to 1951, when the two immigrant brothers Lawrence and Horace Kadoorie began a self-help scheme for poor immigrant farmers from China. This scheme was to help over 300,000 Hong Kong farmers to achieve a good standard of living. Both brothers passed away in the 1990s, but the family's philanthropic activities continue. The Kadoorie Charities fund projects throughout China and the South East Asian region.

KFBG, in response to changing priorities in Hong Kong, has become a centre for environmental education and conservation, enshrined by a Government Ordinance in 1995 as a public corporation. KFBG's Mission is "to increase the awareness of our relationship with the environment". The centre now has thriving programmes in wild plant and animal conservation, sustainable agriculture, and environmental education.

In 1994 the Fauna Conservation Department was established at KFBG. Since then the department has been committed to the conservation of Hong Kong's native fauna.

嘉道理農場暨植物園簡介

嘉道理農場暨植物園是香港的慈善機構，早於1951年，嘉道理兄弟——

羅蘭士勳爵及賀理士爵士創辦嘉道理農業輔助會，為大批貧困無依的難民提供各種農業資助，為超過300,000

名農民改善生活質素。羅蘭士勳爵及賀理士爵士均於90年代先後辭世，但其家族精神仍得以一直延續下去。嘉道理慈善基金的資助項目遍及中國及東南亞地區。

隨著香港社區的轉型，本園已成為自然教育與保育中心，並根據1995年通過的香港法例成為一家公益事業公司。我們的宗旨是提高大眾對「人與自然環境關係」的認識，現正推行的計劃包括植物保育、動物保育、有機農業及環境教育等。

動物保育部自1994年成立，致力保護香港的本土動物。



<http://www.kfbg.org>

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