

觀測黑熊的基地，大分觀測站 / 黃美秀提供  
Dafen Observatory, base for monitoring *Ursus thibetanus formosanus* / Photo provided by Mei-hsiu Hwang



黃老師的學生們正測量著熊窩，為其生活與遷移行動作紀錄 / 黃美秀提供  
Hwang's students were measuring the bear home to record its life and migration pattern. / Photo provided by Mei-hsiu Hwang

## 專訪為台灣黑熊發聲的黃美秀教授

# 熊熊熱愛 無盡延燒

## Endless Love for Black Bears

An Interview with Prof. Mei-hsiu Hwang

**黃美秀**，一個在台灣的生態保育圈中絕對引人注目的亮點。目前也是世界自然保育聯盟物種存續委員會 (IUCN/SSC) 亞洲黑熊專家小組共同主席。

年輕削瘦的她，從攻讀美國明尼蘇達生物學博士班起，就常背著二、三十公斤的器材縱走山林，追尋行蹤飄忽的台灣黑熊。黑熊不只是她論文的主題，更是信念與熱情之所在。她對於黑熊的付出，讓人們叫她台灣的珍古德，讓原住民耆老稱呼她為黑熊媽媽。但你問她有多喜歡黑熊，她會斬釘截鐵的告訴你：「我有說過我很喜歡黑熊嗎？我只是放不下牠們，我想為牠們揹苦而已！」

### 尋求典範，一腳踏進黑熊的世界

黃教授走入台灣黑熊研究領域的契機，是因為選擇老師的關係，因為她十分欣賞她的指導教授的學術涵養，而這個老師的研究領域是熊。黃教授對於博士班有相當大的期許，她不想只拿一張文憑，而是期待在學院內的最後階段，獲得屬於個人的最紮實也最能大幅提昇的磨練。而當時的明尼蘇達大學保育生物研究所之中（這是黃教授的母校），注意到她的，從事較大型動物研究的，唯有教授大衛·賈塞利斯 (Dr. Dave Garshelis) 能滿足黃教授的求知慾，成為她心中的學術典範。

問到這位「學術典範」對黃教授的最大影響，黃教授毫不遲疑的回答：「國際保育視野與做人做事的態度。」黃教授曾問過賈塞利斯，為什麼願意收她做為學生？尤其是她的英文又不太好，賈塞利斯的回答讓她震撼：「如果需要學生幫助我做美洲熊類的研究，在文化及語文之考量下，妳大概很難在名單之列。但是妳來自亞洲，那邊關於熊類的研究很少，如果妳好好做，妳會啟發、推動亞洲地區的熊類研究與保育活動，貢獻可能更大。」

對於保育的高度國際觀讓賈塞利斯選擇了黃美秀。

Currently as the co-chairman of the Asian black bears Expert Team of IUCN/SSC, an international unit for rare species, Mei-hsiu Hwang is definitely an eye-catcher in the ecological conservation circle in Taiwan.

Young and skinny, she has been accustomed to carrying heavy gears and walking through forests to track Formosan Black Bear (*Ursus thibetanus formosanus*), the subject of her dissertation and also the inspiration of her belief and passion. Her devotion has earned her the name of "Taiwan's Jane Goodall."

Aboriginals call her "Mother Bear" but when asked about her love for the animal, she would answer: "Not love, it is compassion."

### A Good Example She Sets

Thanks to her mentor, Dave Garshelis, her Ph.D. adviser at the program of conservation biology at University of Minnesota and also an expert about large animals, Hwang, who wanted more than just a doctoral degree and wished to receive the most solid-grounded and far-reaching training, had the ideal academic model to look up to.

What was the biggest influence this "academic model" had on her? Hwang answered without hesitation: a global view of conservation and right attitude. She once asked Garshelis why he took her as his advisee since her English was not good. His answer was candid: "If I were studying American bears, you would hardly become a candidate considering your cultural background and language ability. But, for studies on Asian bears, if you do it right, you probably can inspire conservation efforts in Asia with huge contributions."

International horizon was one of the reasons for Garshelis to choose Hwang.





黑熊媽媽正在哺育幼熊及教導進食，如此慈愛的天倫景象怎忍心破壞？ / 黃美秀提供  
Mother bear was nursing her baby and teaching it to feed. What a loving picture! / Photo provided by Mei-hsiu Hwang

在賈塞利斯（目前是世界自然保育聯盟物種生存委員會熊類專家小組主席），黃美秀看見了研究跟保育雙軌並進的良好身教：一方面維持論文生產的良好質量，另一方面對於服務性質的保育工作也從不退卻。賈塞利斯曾經對黃美秀說：「做保育跟做科學研究並不完全相同，保育有時為了拯救物種，其中不容太多的等待。」有些時候基於保育的需要，對於資源的分配可能要重新估量。而這，在黃美秀回國，身兼多重身份，面對保育與學術的矛盾之時，黃美秀有了更多的體會。

#### 學術與保育的拉扯

學術和保育為什麼會矛盾？他們不是同一個領域的事情嗎？黃教授反問：如果今天是筆者面對日益稀少的物種，比如說中華白海豚好了，筆者第一個行動是什麼？筆者想了想，說：可能會先去做社會運動與宣導吧？黃教授接著又問，可是你一天有多少個小時？你的研究，你的科學論文發表產出，你的教學每一項都需要時間，邀約演講這些不是不付出就能有成就的。但是，當你把時間心力投注在單純的研究及撰稿生產之餘，可能就沒有足夠的時間進行教育宣導、募款，或者是協助行政單位解決一些迫切的管理議題。

面對這樣的拉扯，黃教授採取的方式是轉換角度，在研究者與生態保育之間做好資源的分配與取舍。黃教授說，認清這個體制的現實，想出應對的策略，最重要的，不要讓自己對於保育的信念和熱誠被體制給扼殺了。曾有國科會的審查委員建議黃教授轉換研究主題，因為台灣黑熊難度太高，會影響黃教授的論文發表數量。對此建議，黃教授是一笑置之：「如果別人用三年可以升等為副教授，那我可能需要六年；但是在這六年間我好好的經營，我還是可以升等，而且又顧及了生態保育的需求。」

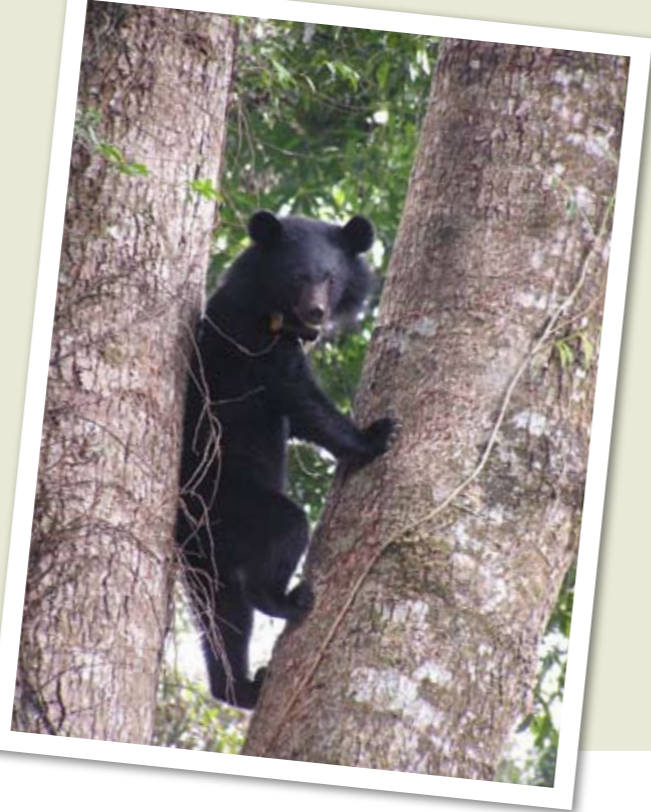
Garshelis (currently chairman of the Bears expert group of IUCN/SSC) was the perfect role model who emphasizes both research and conservation. He made sure that the produced dissertation was of good quality while at the same time keeping in mind the service nature of conservation. Garshelis once told Hwang: "Conservation is not research because it can't wait." To conserve, reassessment of resource allocation is sometimes necessary. Hwang realized the difference even more after she came back to and work in Taiwan.

#### The Tug of War

"Why does academic research contradict with conservation?" Hwang did not answer but asked: "If you are dealing with a rare species, say, Chinese White Dolphin (*Sousa chinensis*), what is the first thing you will do?" I pondered and said "social movement that calls for public attention." She went on to ask: "how many hours do you have a day? Your study and science thesis output require time and efforts to be successful but when you are devoted to pure research and thesis composition, you have limited time for educational promotion and fund raising or helping solve urgent management issues."

In light of this, Hwang decided to make the best distribution of resources between research and conservation. She accepted the reality of existing system and came up with strategies. She did not allow her belief to surrender to the system. A committee member of the National Science Council suggested that she should choose an easier subject and produce more theses. She smiled: "I may need to spend 6 years to become an associate professor but I will get there anyway. What matters is that I take care of ecological conservation, too."





十四個月大的黑熊看來已經相當神氣了，這隻黑熊脖子帶著觀測項圈，凝望著遠方 / 黃美秀提供  
*Ursus thibetanus formosanus* at 14 months looks very sturdy already. Wearing a monitoring collar, it was staring into the distance. / Photo provided by Mei-hsiu Hwang

### 架設網站，讓更多人認識臺灣黑熊

成立黑熊保育網的緣起是什麼？黃教授表示，建構黑熊保育網站是因為人們都太不瞭解黑熊了，甚至很多誤解，保育不彰是因為非法狩獵跟民衆的購買，但是這不能算是民衆的錯。第一步應該讓民衆清楚議題與對象，瞭解之後，他要不要關心，能不能或願不願付出，又是另一個層次的問題了。

進行黑熊研究的時候，黃教授清楚的看見了台灣黑熊的困境，她覺得，一個物種被列入瀕危名單二十年，卻沒能有效復育，這是台灣人共同的恥辱。以前的雲豹或原生種水獺，因為訊息不足，在本島幾乎消逝或許是莫可奈何之事，但是在資訊發達的現在，生為保育學者，黃教授無法坐視黑熊的滅絕。雖然黃教授寫了本《黑熊手記——我與台灣黑熊的故事》，但是「台灣人說真的也沒那麼愛看書」（該書雖然獲得了2004年開卷好書的榮譽，卻還是難逃絕版的命運），想來想去，最能傳播資訊的方法就是透過網站，成本上最便宜，關心熊的外國友人也看得到。所以，在回國的第二年，黃教授就跟玉山國家公園合作，共同建置了「台灣黑熊保育研究網」。

至於在網站的維持與更新方面，黃教授坦言並不滿意，現在主要的更新在於資料庫保育類新聞以及論文資料的發表，其他相對就比較少，有人發問也很難即時回應。而這又回到一開始的討論，如何平衡與劃分資源？聽到這裡，筆者忍不住插嘴：現在不是有很多擴大就業方案嗎？如果老師也去申請，不就可以幫自己的學生創造工作機會，同時也可以讓他負責資料更新和網站維持嗎？聽完筆者自認聰明的點子，黃教授正經的說：我從不擔心他們的就業問題，我的學生目前出去都很好找工作！

哇！在這個高學歷等於高失業率的時代，居然有老師對自己的學生這麼有信心！黃教授說，她的學生多數野外研

### Setup of Website

What inspired the establishment of the *Ursus thibetanus formosanus* website? Hwang said it's because they wanted to promote people's knowledge about the animal and stop the hunting, selling and purchasing of it. To be successful, they had to first let people know about the animal and related issues.

While doing research, Hwang clearly saw the difficulty facing *Ursus thibetanus formosanus*. It is truly a shame on all Taiwanese that the animal has been on the extinctive species list for 20 years and no effective restoration has come around. Extinction of rare species in the old times might have been excused but with modern technology, there is no excuse. Hwang wrote an award-winning book on the black bears but it was not well received by the market. She came to realize that websites are the most cost-effective and borderless avenue. So she worked with Yushan National Park and built the Conservation and Research of Formosan Black Bear website.

Hwang said that she was not satisfied with the maintenance and update of the website. Current emphasis is placed on database conservation news and theses and people rarely get instant replies to their questions. It all comes down to the imbalanced division of resources again. I couldn't help proposing that she could take advantage of the governmental employment stimulus plan and help her students with great working opportunities, too. She answered seriously: "Unemployment is never a problem among my students."

Good for her for being so confident with her students in an era of a high unemployment rate! Hwang said that her students are highly capable of field research and devoted, making them desired candidates for may

究的能力都很強，或者刻苦耐勞及熱誠，學界甚至管理單位雖然普遍不重視野外研究，但是，很多人都忽略了野外調查是野生動物保育研究的第一線，這方面的人才量需求事實上是應該非常大的。而她的學生具備了刻苦耐勞，專業知識，以及對野外調查的熱情，這正是各研究團隊渴求的對象。但是山野調查想要留住學生，非常不容易，不僅工作辛苦，資料收集不易，親友們大多認為這是冷門或危險的。所以老師最好能親身帶領，讓學生深刻領略自然的深奧及野外工作之樂趣，也要給他們發展空間；可是，當學生品嚐了野外調查的樂趣，感受了與自然互動的震撼，他們的熱情就在這個領域持續付出。這恐怕是鑽口坐在實驗室裡，僅憑他人採集的試管樣本作研究的科學家不易體會的。談到了分散在各個計畫、各個觀測點的子弟兵們，黃教授的口吻難掩驕傲。

### 黑熊保育，須顧及「整體」與「即時」

話題轉到現行管理階層對於黑熊保育的作法，從兩個層次下手，黃教授剖析了這個問題：如果以國家公園的層次來看，以單一區域來進行黑熊的復育意義是十分有限的。如果只有某個國家公園的黑熊頭好壯壯，其他地區的黑熊都凋零滅絕，這不是真正的復育。因為黑熊活動範圍很大，常常遠超乎保護區範圍；另外，單一個保護區也無法提供保育上足夠的有效族群。誠然，黑熊保育不是憑「一個」國家公園就能解決的，但是在進行決策時，要有以台灣整個島為單位而做規劃的視野。因此應該強調整合各相關管理單位的跨區域保育行動。

research groups despite the fact that the importance of field research is often underemphasized. Field investigations are the fundamentals of research and related demand is huge. However, the difficult work and data collection make many people think it is too dangerous or unpopular. Therefore, teachers should lead their students and allow them room to act on their own sometimes and develop their passion. Once students experience the fun of field investigations and interact with the nature, their passion will constantly grow. This is something that laboratory scientists can hardly understand. When speaking of her students now at different observation sites, Hwang is full of pride.

### "Integrity" and "Instantaneity" of the Conservation

"What about present practices in conserving *Ursus thibetanus formosanus*?" "There are two levels," analyzed Hwang, "the national parks and government agencies." It would be meaningless to restore the species in one single national park because black bears move around and often out of the protection area, and one single protection area cannot provide sufficient and effective population. That being said, conservation of *Ursus thibetanus formosanus* should not be efforts of a single national park but should be done throughout Taiwan.

黑熊個性獨立隱蔽，宛如森林中的隱士 / 黃美秀提供  
*Ursus thibetanus formosanus* is known for its independence and isolation from the outside world, just like a hermit in the forest. / Photo provided by Mei-hsiu Hwang







穿山越嶺，只為追尋隱密熊蹤 / 黃美秀提供  
Over the mountains and valleys, they looked for bears. /  
Photo provided by Mei-hsiu Hwang



黃教授與黑熊之間的情感建立，是台灣保育界的良好典範 / 黃美秀提供  
The bond between Hwang and *Ursus thibetanus formosanus* is a good model  
in the conservation circle in Taiwan. / Photo provided by Mei-hsiu Hwang

至於政府機關呢？黃教授認為保育沒有消極可言，如果主管機關仍處於有人喊話，就分配些經費，沒人喊話，政府也就不了了之的狀態，那麼根本無法對於瀕危動物的消逝力挽狂瀾。我們常聽到的所謂「不久的將來」，其實是非常短暫的時間，意味著我們還活著的這個世代，這些物種就有可能消逝。主管機關需要的，是更有行動力予積極性的作法：不是把黑熊或其他即將消失的物種列為瀕危就算了，建議應該在公告後，於三或五年內，召集專家群組提出復育計畫，定期評估，試圖讓該物種的保育等級能夠下降，並持續監測評估。這方面的立法配套，也是黃教授目前的努力目標之一。

### 復育基地，執行宜多三思

那麼，中國大陸的熊貓基地，可以做為我們保育黑熊的取經對象嗎？黃教授對此不表認同。在建構任何圈養環境之前，首先要問清楚，養黑熊到底要幹嘛？黑熊的活動範圍很大，行為又很複雜，如果靠人力圈養，若無正當合理的理由，勢必很難通過動物福利權的檢驗，反成為「反保育」了；而台灣黑熊最需要的，是移除他們自然生存環境中的威脅。如果想要透過圈養增加數量，但是養出來的熊都變成了「寵物熊」，沒有獨立生存的能力；或因野外環境太差，放一隻死一隻，就像放養到污水的魚苗一樣，這會造成更多問題。保育不是增加數量就好了，而是要維繫野外的健康種群，具有足夠的遺傳多樣性，同時要連整個生態系都一起保育進去。如果一定要養黑熊，也該把這些被圈養的黑熊視為「代言人」，主要的功能是喚起人類的關愛及瞭解，要為牠們在野外的親戚們爭取更好的生活空間，而不是一味宣揚熊多麼可愛，或者是圈養的設備多麼新穎、工作人員準備飼料多麼花功夫等等……這根本就本末倒置了：「這其實也牽涉了現階段人們的素質，一定要看到實體的動物，才會懂得珍惜。動物園某種程度都是這個思維下的產物。」黃教授不無感慨的說。

「越是森林性的動物，一旦有危機，可能消失的越快。」黃教授分享了他最近的體悟。像黑面琵鷺，由於可見度高，一般民眾親近比較容易，對於它們的保育動力較易凝聚成形；

What about government agencies? Hwang said that “they are too passive now. Budgets should be appropriated spontaneously to save the rapidly diminishing endangered animals. After all, it is possible that they will disappear in the “near future,” or in other words, while we are still alive. Hence, regulatory authorities need to act now and be more proactive instead of just including *Ursus thibetanus formosanus* in the list of endangered animals. A restoration plan proposed by experts is needed to make conservation work. Related legislative packages are one of Hwang's goals, too.

### Think Twice on Restoration Area

“Can we follow China's panda restoration model, then?” Hwang disagreed and said that people who put *Ursus thibetanus formosanus* in a captive setting should ask themselves why they did it. The animal requires a huge space and has very complicated behavioral patterns. A captive setting would never be approved when animal rights were to be considered. The effort would then ironically become “anti-conservation.” “What *Ursus thibetanus formosanus* needs is have threats to their life removed. A captive measure will result in many pet bears unable to survive on their own when set free in the wilderness, creating more problems. Conservation is not just about certain species but also the whole eco-system. Even if a captive restoration is adopted, the black bears should be the speaker that earns people's care and a better living environment for all species in the wild. Emphases should not be placed on how cute the bears, how novel the captive equipment or how thoughtful the caretakers are, but sadly, this is often what happens,” sighed Hwang.

“Once endangered, forest-based animals often disappear fast.” Hwang came to this conclusion recently. The conservation of Black-faced Spoonbill (*Platalea minor*) is easier because it's more visible

森林性的動物根本不容易見到，一般人對之不容易產生太大的情感聯繫，推動起來更顯困難。「你知道嗎？其實我在研究及保護的，是『想像中』的生物！」黃教授笑著說。台灣黑熊被列瀕絕物種二十年了，政府的消極以及黑熊的可見度、話題度低都是主因，也就是這樣，讓黃教授對於它們更是放不下心：「其實，野生動物都有牠們漂亮的地方，我都很喜歡，我並沒有特別鍾情於熊；我只是覺得牠們太倒楣也太可憐了……如果有一天，牠能被除名，也許我就不再研究熊，這也是有可能的。」

### 許我們一個保育黑熊的理由

入迷的聽了黃教授講了近兩個小時，筆者做了最後提問：「黑熊存在的價值到底是什麼？可否給我們一個實際的、復育它的意義？」沈默了一會，黃教授表示要立刻給個大家都瞭解且認同的答案並不容易。沒有熊，人們的生活好像也沒差吧，但是：「我之所以會想做熊，是因為我想住在一個充滿人文關懷的地方……如果連黑熊這麼大、這麼炯炯有神動物，台灣人都不在意了，我想他們也不會在意生物多樣性，也不會在乎環境、河川、植物了；這樣的台灣無救了，而身在其中的我們，同樣也無救了。」

「熊，某種程度是人性的指標，因為這份關注不只是針對黑熊，也能延伸到對於台灣整體的關懷。如果我們連遠在森林裡、看不見的黑熊都在意的話，我想人們對於周遭的傷害也不會視而不見。如果我們曾經認真想過一百年後的台灣長什麼樣子，如果我們能投影一百年後的藍圖，現在的人不可能會是這個樣子的。」

這番話真是最好的註解！筆者決定，要把這段話，作為文章的結尾。🐻

台灣黑熊研究保育網  
Conservation and Research of Formosan Black Bears Website  
<http://tve.npust.edu.tw:8080/project/meibear/Chinese/index.asp>

### 黃美秀教授簡介 Profile of Prof. Mei-hsiu Hwang

黃美秀教授，1970年生。  
對於台灣黑熊的不捨之心以及對於大自然的熱愛，使她成為台灣保育界知名的「黑熊媽媽」。寫過一本《黑熊手記——我與台灣黑熊的故事》，是她研究台灣黑熊的田野手記及對山林、文化的深刻反思；可說是台灣第一本土生態研究者的研究札記，並獲得2003年中國時報開卷十大中文好書獎。  
黃教授是美國明尼蘇達保育生物研究所博士，現任屏東科技大學野生動物保育研究所助理教授。

Born in 1970, Hwang is the famous “Mother Bear” in the conservation of Formosan Black Bear (*Ursus thibetanus formosanus*) in Taiwan. Her work “My Diary- Story of Me with Formosan Black Bears” records field research and reflections on the nature and culture. It was the first research journal of an ecological researcher published and selected as one of the Top 10 Best Chinese Books in 2003 by China Times.  
With a Ph.D. degree in Conservation Biology at the University of Minnesota, Hwang is currently an assistant professor of the Institute of Wildlife Conservation at National Pingtung University of Science and Technology.



and approachable to the public. By contrast, forest-based animals are not commonly seen and hence it is harder for people to bond with them, which makes conservation difficult. “Now you know that I have been studying and protecting the animal of ‘my imagination,’” Hwang jokes. The passivism of the government and limited visibility of the black bears are reasons for unsuccessful conservation. “I like all wildlife, not just bears. But I feel for their misfortune. Maybe one day they will be removed from the list and I can stop studying them.”

### Give Us a Reason to Conserve

At the end of the nearly two hours of interview, I asked the last question: “What is the value of *Ursus thibetanus formosanus*? What is the substantial significance of its restoration?” To answer such questions is not easy, said Hwang. People sure can live without bears. “I research bears because I want my place to be one with humanity and compassion. If we cannot even conserve such a huge and vivid animal as black bear, how can we care about biodiversity, let alone the environment, rivers, and plants? and how inhumane will we be then?”

“Bears to a certain extent are the indicator of humanity. The care for them can be extended to the whole Taiwan, too. If we could care about even those hardly visible black bears in the forests, we will not be ignorant to any harm we do to our surroundings. It people ever ponder what Taiwan'd look like a century later, they will think and act much differently than they do now.”

Well said, indeed! And this comment gave the perfect ending to this article. 🐻