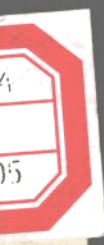


臺灣特稀有生物

張靜茹等 著



Taiwan's Extraordinary Plants and Animals

臺灣特稀有生物

Taiwan's Extraordinary Plants and Animals

張靜茹等 著

序(一)

行政院農業委員會
副主任委員

葛錦昭

在自然環境中，生物與生物或生物與非生物之間，由於強食弱勝、適者生存之原則下，均維持在平衡狀態，生物只要有適當的環境，就會孳孳不息的繁衍下去。而近年來，由於自然環境遭到嚴重之破壞或改變，以至每年有數百種生物自地表上消失。因此，自然生態保育的工作愈益顯得重要。

臺灣位於亞熱帶地區，境內多山，四面環海，雨量充沛，氣候溫暖。在此種海洋高山交錯的環境裡，形成了許多不同的生態體系。陸域有熱帶海岸林、常綠闊葉林、混生林、針葉林、草原及高山凍原等；水域則有溪流、沼澤、湖泊、河口及礁岩等。由於此種複雜的地形和環境，孕育豐富的動植物資源。依初步資料顯示，臺灣的哺乳類約六十一種，鳥類約四百卅種，爬蟲類約九十二種，兩生類約廿九種，淡水魚則近一百卅種，昆蟲則可能高達五萬種。臺灣得天獨厚的動物資源，足傲視許多國家。

臺灣野生動物的資源不僅豐富，而且珍貴，由於臺灣生態及地理環境的特殊，在長期演化的結果，保有許多臺灣所特有的種類或亞種，諸如臺灣獼猴、臺灣長鬃山羊、藍腹鵲、帝雉、蘭嶼角鴉、水筆仔等。

近年來工商業迅速發展，人口增加；國人對於自然資源開發利用迅速推展，不加愛惜保護，動輒濫採、濫墾、濫捕，導致不少動物、植物已瀕臨絕種，甚至有部份已滅種，遭受不可挽回之破壞，殊為可惜。

有鑑於臺灣資源逐漸受到破壞，且其瀕臨絕滅之速度日益加快，本書特搜集了廿種不同的稀有動植物，深入淺出詳細的介紹其特性，使國人對這些國寶級的生物有進一步的認知。同時，在「復育大自然的少數民族」一文中，更詳盡的介紹目前世界各國政府正急於保護他們特有及稀有的動植物，隨著時代潮流，我國政府、學者、專家及民間組織也相繼進行生態調查及保育工作。

最後，願以赤誠呼籲全體國民，自然生態保育工作應與經濟發展及國民生活品質的提升取得協調，最重要的乃是積極建立保育觀念及正確的價值觀，共同推展我國自然生態保育工作，確保我國珍貴的野生動植物資源得以生生不息。

Living species, under the principles of natural selection and the survival of the fittest, maintain a dynamic balance with other species and will continue to propagate and flourish so long as they find an appropriate environment. But in recent years, serious damage to the environment has led to the extinction of several hundreds of species a year (including insects). As a result, conservation and environmental protection have become increasingly critical.

Taiwan is semitropical in climate, mountainous in terrain, surrounded by the sea, and subject to abundant rainfall, a combination of mountain and ocean environments that forms a number of different ecosystems. Those on land include tropical seacoast forests, hardwood forests, mixed forests, coniferous forests, grassy plains, and mountain tundra; water ecosystems include creeks, marshes, lakes, river mouths, and coral rock formations. Such a complex topography and environment has produced a wealth of plant and animal resources. Initial estimates show that Taiwan has about 61 species of mammals, 430 species of birds, 92 species of reptiles, 29 species of amphibians, nearly 130 species of freshwater fish, and as many as 50,000 species of insects. The zoological resources of this one island are greater than those of many countries.

Taiwan's wildlife resources are not only abundant but rare and precious. Over the course of evolution, the island's special ecological and geographical environment has produced many species or subspecies unique to the island, such as the Taiwan rock-monkey, the Taiwan serow, Swinhoe's blue pheasant, the mikado pheasant, the Orchid Island horned owl, and the Formosan kandelaria.

In recent years, as the economy has rapidly expanded and the population has increased, overexploitation of resources, misuse of land, and reckless hunting have endangered the existence of many species of plants and animals on the island, some of which have already become extinct. Irreversible damage of this kind is especial-

ly unfortunate.

In view of the damage inflicted on the island's natural resources and the speed with which endangered species are approaching extinction, this book introduces twenty different species of rare plants and animals on Taiwan, explaining their habits and characteristics in detailed, easy-to-understand language to give citizens a better understanding of these creatures, which are in fact national treasures of ours. At the same time, the article "Restoring Nature's Dwindling Minorities" reports in detail on the efforts by governments around the world to protect their own rare animals and plants. In line with the trend of the times, the government, scholars, experts, and private organizations are working together to carry out ecological surveys and environmental protection work in the Republic of China.

Finally, I would like to call on the people of the whole nation to coordinate the work of environmental protection with their raised level of economic development and higher quality of life. Most important of all is for us to establish environmental awareness and sound value concepts, so that together we can promote environmental protection and ensure that our nation's precious plant and animal resources will continue to flourish in the future.



Chin Chao Koh
Vice Chairman
Council of Agriculture
Executive Yuan

Preface (1)

序(二)

自然資源是地球的寶藏，也是古今人類共同的財富。我們要延續人類萬世的生命，就必須以無比愛惜的心，來善用這些自然資源。生態保育所訴求的理念，是一方面避免資源的浪費，一方面防止資源的衰微，甚至消失。我們對自然資源的利用，假如無法達到「取之不盡，用之不竭」的境界，我們的子孫哪能與我們分享？

地球上每一個角落的自然資源，尤其是生物資源，都有其特有的地區性，而每一個地區也有每一個地區的特有生物（資源）；每一個地區的生物資源，不論它是不是特有的，其資源量的多寡亦有其定數。如果某些生物的資源量已遠低於這個地區原有的定數，這種生物在這個地區，就成為稀有、甚而成為面臨絕種的生物，或從這個地球上消失。

民國六十九年，國際自然及天然資源保育聯合會（IUCN）、聯合國環境計劃組織（UNEP）及世界野生動物協會（WWF）等三個國際組織，共同出版了「世界自然保育方略」一書，在序文中強調：「人類為追求經濟開發及享用自然界的寶藏，必須接受資源是有限性的事實，並考量其生態系之負荷能力。同時亦需考慮人類後代子孫之需！——此即資源保育之使命。如果開發的目標是為了提供社會與經濟福祉，則資源保育之目標即要確保地球之負荷力，藉求永續性開發並維繫一切生命體系……。」我國亦於民國七十一年頒佈「文化資產保存法」，對於珍貴、稀有、瀕臨絕種動、植物以及生態保育區，在法律上予以嚴格的保護。

這些年來，臺灣地區的自然生態保育工作也開始萌芽。但是，任何科學觀念或知識要能獲得一般大眾的瞭解甚而產生共識，不是一件容易的事。需要「誠心」、「耐心」和「時間」來傳播對自然生態的「愛心」。

過去三年，光華畫報雜誌在其有限的篇幅裡，仍能充實自然生態保育的內容，負起了傳播和溝通大眾對環境認知的責任，可以說相當具有前瞻性。『臺灣特稀有生物』這一本書，是該社幾位主要編輯憑著其熱誠和毅力，去親身體驗，細心訪察的成果。他們把所見所聞，以彩色圖片和深入淺出的文筆，

將臺灣獼猴、長鬃山羊、梅花鹿、翡翠樹蛙、山椒魚、臺灣鱒、珠光黃裳鳳蝶、穿山甲、臺灣犬、臺灣黑熊、水筆仔、帝雉、高身鰱魚、臺灣野猪、蘭嶼角鴞、臺北樹蛙和臺灣雲豹等廿種臺灣特稀有生物，以非常詳實生動並兼顧學術性、趣味性的寫法介紹給讀者。

這是一本非常值得您閱讀的書。多一位讀者就將多增一份自然保育的力量。我們的子子孫孫也就多一份與我們分享資源的機會。讓我們一起來關懷我們的周遭！

當我們緬懷先人之時，不妨回味一下二千年前，孟子告訴梁惠王的幾句話：「……不違農時，穀不可勝食也。數罟不入洿池，魚鼈不可勝食也。斧斤以時入山林，材木不可勝用也。穀與魚鼈不可勝食，材木不可勝用，是使民養生喪死無憾也。養生喪死無憾，王道之始也。」

S

中華民國自然生態保育協會
學術委員會執行長

張 乾 雄

Natural resources are the earth's precious treasures and the common riches of mankind. If we hope for the continuation of human life through the ages, then we must learn to cherish our natural resources and use them wisely. Otherwise, what future will be left for our descendants?

Natural resources, especially biological resources, are distributed unevenly among the regions of the earth, and each region has its characteristic natural and biological resources. If the population of a certain species in a region falls far below the number originally found in that region, then that species is rare or endangered and may be facing extinction.

The foreword to a book called *World Conservation Strategy*, published in 1980 by the International Union for Conservation of Nature and Natural Resources, the United Nations Environment Programme, and the World Wildlife Fund, emphasized the following: "Human beings, in their quest for economic development and enjoyment of the riches of nature, must come to terms with the reality of resource limitation and the carrying capacities of ecosystems, and must take account of the needs of future generations. This is the message of conservation. For if the object of development is to provide for social and economic welfare, the object of conservation is to ensure Earth's capacity to sustain development and to support all life." The R.O.C.'s Cultural Resources Preservation Law, promulgated in 1982, also gave strict legal protection to rare and endangered species of plants and animals and to designated ecological protection areas.

Environmental protection has begun to make advances on Taiwan in the past few years. But for a scientific concept or way of thinking to be understood and accepted by the general public is not easy. Patience and time are needed.

In devoting space over the past three years to spreading environmental knowledge and awareness, *Sinorama* magazine has performed a responsible and forward-looking service to the public. Several senior

editors at the magazine were personally involved in the project, and this book is the fruit of their labor and enthusiasm. The book introduces the Formosan rock-monkey, the Formosan serow, the Formosan sika, the Feits'ui treefrog, the Formosan salamander, the Taiwan trout, the Orchid Island monarch butterfly, the Formosan pangolin, the Formosan dog, the Formosan black bear, the Formosan kandelaria, the mikado pheasant, the Taiwan Ku fish, the Formosan boar, the Orchid Island horned owl, the Taipei tree-frog, the clouded leopard, and other rare species of the island in a style that is both informative and interesting along with a host of colorful illustrations.

This is a book that demands to be read. Each person who reads it means one more force for environmental protection and one more chance for our children and our children's children to enjoy our precious natural resources. May we all work together to show our concern for the world around us!

The words that the philosopher Mencius spoke to King Hui of Liang over 2,000 years ago are still worth pondering: "If the farming seasons aren't violated, then there'll be more than enough grain to eat. If fine-meshed nets aren't used in the ponds and lakes, then there'll be plenty of fish and turtles. If axes and hatchets are used in the forests at the right times, then there'll be plenty of timber. When there's plenty of grain, fish, turtles, and timber, then the people will be able to feed the living and bury the dead without any worries. And that's the start of the way to being a real king."

S

Chang Kun-hsiung
Executive Chairman
Academic Committee
The R.O.C. Society for Wildlife and Nature

Chang, Kun-hsiung

Preface (2)

作者序

張 靜 莎

「臺灣特稀有生物」專欄，在光華雜誌已經進行三年多了，選擇這個時候結集出書，無非是希望能有更多讀者，和我們一同來結交、認識與我們共同生活在這塊土地上的其他生命。

三年前，國內生態保育觀念萌芽不久，學術界許多對特稀有生物的調查研究，也剛開始進行；光華同仁收集資料時常有捉襟見肘的感覺。

三年來，研究報告一篇篇完成、發表；臺大動物系、師大生物系、中研院動物所……，不斷有人上山（如臺灣獼猴、山豬的研究）、下水（如臺灣鱒、高身鯛魚的研究）做生態調查，使臺灣特稀有生物的資料愈來愈豐富，光華的報導因此能愈趨詳盡，讀者也有更多機會對本土生物做進一步的認識。

比起學者們的辛苦研究、保育人士的大力推動、呼籲；光華三年來的報導，只能算是一點心意，但我們衷心希望，能藉此使社會大眾對特稀有生物的關懷日益增加。

今天，社會上對野生動物所表現出的關懷，可說是過去廿、卅年來未曾有過的；但我們仍然不無疑問。

過去，許多人見到野生動物，最直接的反應是，好不好吃、補不補；今天，則有更多人希望買牠來當寵物、放生；也有人大量繁殖、買賣。換句話說，我們看到的、關注的，還是對「珍禽異獸」的獵異與好奇。

長久以來，我們好像已經忘了如何與大自然相處。因此，今天社會大眾的保育觀念，可能只是換了一個方法在對待動物，據為己有的心態卻並未改變。

未來，光華雜誌仍會持續報導臺灣特稀有生物，但光華同仁將對自己多一項期許。那就是，不只告訴大家這些生物的生態習性與現況；也希望在文章中傳達，怎樣才是與動物的相處之道，如何才是自許為「萬物之靈」的我們，對待大自然的態度。

S

The series "Taiwan's Rare Plants and Animals" has already been running for over three years in *Sinorama* Magazine. We have chosen to bring these articles together in a book in the hope of bringing even more readers with us to learn about some of the other forms of life which share this earth with us.

Three years ago, environmental and ecological consciousness on Taiwan was just budding, and research into rare and endemic species had just begun. At that time *Sinorama's* reporters had to scrape for data. But in the last three years, article after article has been published as scholars from the Zoology departments at National Taiwan University, National Normal University, and the Academia Sinica have scaled the mountains and plunged into the waters to research the local ecology. As a result, our articles have become ever more complete, giving readers even more chances to understand nature's wonders here on Taiwan.

Compared to the labors of these scholars and environmental educators, the articles in *Sinorama* are but small expressions of our concern, but we sincerely hope that through these articles we can help to raise the consideration that society in general accords to our rare species.

Today, the concern shown for wild animals is of a level never before seen; nevertheless we still harbor doubts. In the past when people saw an animal, their first reaction was "Does it taste good?" Today, although many want to care for animals as pets or set captive ones free, others have turned the buying and selling of rare animals into big business. In other words, are we really concerned about these animals, or just curious about the unusual? We have long forgotten how to get along harmoniously with nature. Today's

apparent concern is perhaps only a new way to treat other living things as belonging to us.

In the future, *Sinorama* will continue to carry more features on Taiwan's rare plants and animals. But besides telling everyone about the habits and situation of these creatures, we also hope that we can transmit something of how to better live in harmony with nature. **S**

Author's Introduction

Chang Chin-Tu

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List of Taiwan's Endemic Species and Subspecies



臺灣獼猴

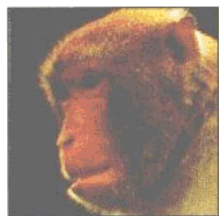
The Formosan Rock-Monkey

文・徐世華

圖・賴俊豪／鄭元慶



◀ 鄧元慶攝
(Photo by Arthur Cheng)



► 台北圓山動物園猴島上的猴王。瞧牠端坐右土，睥睨群猴，果然一副王者之相。（台北圓山動物園提供）

A Formosan rock-monkey at the Taipei city zoo, appearing like a king surveying his subjects.
(Photo courtesy of Yuan San Zoo)



臺灣獼猴是臺灣唯一非人類的靈長目動物；而且全世界只有臺灣地區有。

平常我們看到在臺灣出沒的「土產」猴子，正式名稱就是「臺灣獼猴」。牠在分類學上居靈長目，類人猿亞目中的獼猴亞科獼猴屬。

獼猴尾巴功能較小

在臺灣地區，「猴子」幾乎就是臺灣獼猴的別稱。事實上，猴子有一百七十多種，按分佈範圍，可分為新世界猴（美洲大陸），及舊世界猴（亞非地區）二類。獼猴即為舊世界猴的總稱。

新舊世界猴明顯的差異在，前者（如絹猴科、捲尾猴科）的尾巴可以發揮「第五隻腳」的功用，而後者尾巴的「功能」較少，且各地獼猴也有不同程度的攀爬能力。

為什麼會有這種差別？臺北市立動物園保育組組長陳寶忠解釋，「猴子一開始都生活在樹林間，尾巴用來吊掛枝幹，在林中懸盪。舊世界猴出現較早，已從樹林漸遷居草原、洞穴，尾巴用得少了，逐漸退化；新世界猴仍多居叢林，所以還能用來得心應『尾』。」

臺灣獼猴的尾巴長約一呎，在同門兄弟——中國猴、日本獼猴、印度恆猴中，已算是佼佼者，但也只能發揮平衡作用，無法倒吊在樹幹上嬉戲、爬行。

一夫多妻，猴王享盡艷福

除尾巴外，臺灣獼猴與其它獼猴尚有外形上的差異，例如：臺灣獼猴的頭顱較圓，顏面扁平，臉與臀部為淡粉紅色。

和同為島嶼環境的日本獼猴相較，臺灣獼猴毛色較黑、短薄。臺大教授林曜松認為，這是因為日本氣候寒冷、冬季下雪，日本獼猴為適應環境，毛逐漸演化成厚且色淺以禦寒。

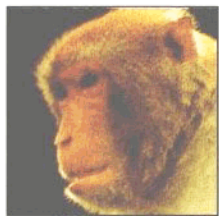
到底臺灣獼猴的祖先從何而來？美國學者Eudey推測：臺灣獼猴應來自中國大陸。臺灣原與大陸相連，後來冰河溶化，臺灣成為孤島，遷徙而來的獼猴無法返回，只有適應環境，經過四萬多年的演化，成為今天獨特

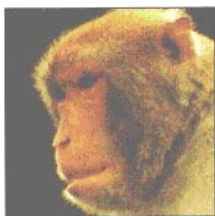
Rock monkey (macaque) is a generic term for Old World (Asia/Africa) monkeys as opposed to the New World (Americas) monkeys. Old World monkeys are distinguished from their New World half-brothers by the strength and dexterity in their tails. New World monkeys have greater strength and more applications (such as hanging from trees) for their tails that Old World monkeys have lost to evolution. The rock monkey of Taiwan has the distinction of being the only other primate on the island besides man. Taiwan is, in fact, their only home in the world. But, they have cousins in Japan, India and mainland China. The Formosan Rock Monkey's tail is longer than its Asian cousins' but is used only for balance and not climbing.

It is thought that the Formosan Rock Monkey has its roots in the China mainland, 40,000 years ago when Taiwan and the mainland were part of the same land mass, the climate changed and the connecting glacier melted away leaving Taiwan and the Formosan Rock Monkey to develop separately and differently from the mainland. Today, the monkey found on Taiwan is a separate species from its ancestors on the mainland.

The rock-monkeys' instinct to group together in clans is very strong. The pecking order is established by direct combat between the mature males in the clan. The strongest is crowned king and has absolute authority over the others. Usually eight to twelve monkeys will band together to form a clan. The leader has domain over every female in the clan, leaving the other males to an uncertain and unreliable love life. The females are solely responsible for the care of the young.

Monkeys have long been considered the closest link in the evolutionary line next to man. It is estimated that the rock-monkey has the intelligence equivalent to a three- or four-year-old child. But, unfortunately, man has not been very generous to his evolutionary sibling. In the 50's and 60's rock-monkeys were found everywhere on Taiwan romping and playing about.





►一歲大的台灣小獼猴「
菁菁姑娘」，張著靈慧
的大眼睛，十分可愛！
(台北圓山動物園提供)

"Jung Jung", a one-year
old rock-monkey, acting
irresistible.
(Photo Courtesy of Yuan
San Zoo)

