华南生物多样性保育通讯刊物 A newsletter for biodiversity conservation in South China

森林脉搏
Living Forests

第四期 Issue No. 4

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KFBG
Kadoorie Farm & Botanic Garden
嘉道理農場暨植物園

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二零零二年六月 June 2002

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Geoemyda spengleri, Kadoorie Farm & Botanic Garden, Hong Kong, April 1999, by Michael Lau.

嘉道理农场暨植物园简介

嘉道理农场暨植物园是一所立足于香港的慈善机构，早在 1951 年，嘉道理家族的两兄弟，罗兰士与贺理士，创办本园以推行农业辅助计划，帮助从大陆移民来港的贫困农户自力更生。该计划帮助了超过三十万名香港农民改善生活，其后在尼泊尔也有开展类似的计划。两兄弟于九十年代先后辞世，但其家族传统仍延续下来。嘉道理慈善基金为中国和尼泊尔境内服务贫困社群的计划提供资助，而嘉道理农场暨植物园则因应香港社会的转型，现已建成为一所自然教育与保育中心，并根据1995年通过的香港法例成为一家公益事业机构。我们的任务是"提高人们关注我们与自然环境的关系"。本园现推行的计划有珍稀植物的保育、野生动物的护理和有机耕作等等。

Introduction to Kadoorie Farm & Botanic Garden (KFBG)

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 brothers Lawrence and Horace Kadoorie began a self-help scheme for poor immigrant farmers from mainland China. This scheme was to help over 300,000 Hong Kong farmers to achieve a good standard of living; similar poverty relief work was undertaken in Nepal. Both brothers died in 1990s, but the family's tradition continues. The Kadoorie Charities fund projects that benefit disadvantaged communities throughout China and Nepal. KFBG, in response to changing priorities in Hong Kong, has become a centre for environmental education and conservation, enshrined by a Government Ordinanace in 1995 as a public corporation. The new Mission Statement of the KFBG is "TO INCREASE THE AWARENESS OF OUR RELATIONSHIP WITH THE ENVIRONMENT". KFBG now has thriving programmes in rare plant propagation, wildlife rehabilitation, sustainable agriculture and other areas.

释放大自然

随著北京申奥成功，恢复中国每况愈下的自然景观成了全国优先考虑的事项。至今，很多大规模造林措施，对整治土壤侵蚀、沙漠化及洪水等灾害性问题仍未发挥作用。就此中国环境与发展国际合作委员会辖下的生物多样性工作组已就此出版指引，教导人们运用天然植被恢复退化的环境 (约翰·马敬能及解焱主编，2001。《利用天然植被改善中国退化环境》。中国环境与发展国际合作委员生物多样性工作组著，47 页)。指引详列十六项成功恢复退化环境的基本原则，亦介绍恢复天然植被所带来的经济效益，最终以「大自然做得最好，而且免费服务」一口号作总结。这份指引由多位作者携手撰文，并由嘉道理农场暨植物园职员协助编辑，设中英文版本，将于全国各县级林业局流通。

费乐思 (嘉道理农场暨植物园)

首个区域性生物多样性计划

生物多样性公约呼吁发展区域性生物多样性保护策略及行动计划，四川省都江堰市率先实践。中国环境与发展国际合作委员会生物多样性工作组获得联合国基金会的资助，于二零零一年八月展开了都江堰市生物多样性保护策略与行动计划。透过**英国野生动植物保护国际 (FFI)** 的支持，**《都江堰生物多样性策略和行动计划培训班研讨会》**于二零零二年一月廿一至廿三日期间举行，藉以厘清：为什么生物多样性重要、为什么与每个政府和经济部门都有关系、各部门如何藉著履行本身的工作去改善生物多样性状况、各部门如何通力合作以加强生

LETTING NATURE LOOSE

Restoring China's degraded landscape is a national priority, given added impetus by the successful Olympic bid. Much of the extensive afforestation conducted up to now has been ineffectual in countering the disastrous processes of erosion, desertification and flooding. In response, the Biodiversity Working Group (BWG) of the China Council for International Cooperation on Environment and Development has produced guidelines on how to restore degraded land through the use of natural vegetation (J. MacKinnon & Xie Y. (chief editors), 2001. Restoring China's Degraded Environment: The Role of Natural Vegetation. Biodiversity Working Group, 47 pp.). Sixteen principles of successful restoration are detailed, and the economic arguments for restoring natural vegetation are presented. They are summed up by the catchphrase: "Nature does it best and Nature does it for free". The multi-author bilingual (Chinese-English) guidelines, co-edited by KFBG staff, will be available to county forestry bureaus throughout the country.

JOHN FELLOWES (KFBG)

FIRST LOCAL BIODIVERSITY PLAN

The Convention on Biological Diversity calls for development of local biodiversity strategies and action plans. Leading the way is Dujiangyan in Sichuan. With funding from the United Nations Foundation (UNF), the Biodiversity Working Group/ China Council for International Cooperation on Environment and Development (BWG/CCICED) launched the Dujiangyan Biodiversity Strategy and Action Plan (DBSAP) in Sichuan in August 2001. Supported by the Fauna and Flora International (FFI), a workshop on sectoral participatory development of DBSAP was held from 21 to 23 January 2002. The meeting sought to clarify: why biodiversity is important and how it is relevant to every government and economic department; how each department can improve the biodiversity situation through performing its duties; how to contribute to biodiversity conservation by cooperation with other departments; and the status of DBSAP in the eyes of the Dujiangyan

物多样性的保护、及生物多样性策略和行动计划在当地政府的地位。都江堰当地几乎所有单位 (包括专责旅游、农业、法律、规划、经济发展、林业、环保、水利、土地运用、科技、动植物繁殖和教育等部门) 都有派员参加，共约八十人参与都江堰市生物多样性保护策略与行动计划的制定工作。一月廿四至廿六日期间参与者又透过实地考察集中讨论入侵物种、植被恢复和分享利益的问题，希望能够对中国其他地区开展类似工作起到示范作用。

解燚 (生物多样性工作组)

华南生物多样性保育项目

嘉道理农场暨植物园华南生物多样性保育项目自成立至今已赞助多个生物多样性保育和教育计划。该项目于一九九九年资助大瑶山自然保护区管理处兴建围栏以保护未受法例保障的鳄蜥的生境。我们又拨款协助广西大明山自然保护区印制三万份教育单张，并设置户外教育展版。为了培育更多年青生物学家，我们又赞助出版由海南师范大学史海涛教授编辑的《海南陆栖脊椎动物检索》。除此之外，我们更资助华南师范大学建立新标本室的部份经费，以确保独特的动物标本获得妥善保存，以方便大学进行有关研究。另一方面，华南生物多样性保育项目也拨款赞助陆文华博士、黎振昌教授和三名来自华南农业大学和华南师范大学的学生，研究甲虫多样性和季节性转变。同时获资助的还有一项针对深圳大鹏半岛七娘山植物的考察，该计划由张永夏先生在华南植物研究所邢福武教授指导下进行，为期两年。

部份获资助的计划至今仍在进行中，包括华南农业大学庄雪影教授在广东增城设立的本

Government. Almost all sectors participated in this seminar, including departments responsible for tourism, agriculture, law, planning, economic development, forestry, environmental protection, water and land resources, technology, animal and plant propagation and education. Almost 80 participants contributed to refining the DBSAP. On 24-26 January problems of invasive species, vegetation restoration and stakeholder benefits were highlighted through field visits and discussed. It is hoped that this participatory approach will serve as a model for other regional BSAPs in China.

XIE YAN (BWG)

SCBCP CONSERVATION PROJECTS

KFBG's South China Biodiversity Conservation Programme (SCBCP) has sponsored several biodiversity conservation and education projects since its inception. In 1999, the programme funded the Dayaoshan Nature Reserve management office to erect fencing around the unprotected Crocodile Lizard *Shinisaurus crocodilurus* habitats. We assisted and funded Damingshan Nature Reserve, Guangxi, to produce 30,000 copies of an educational leaflet and an outdoor education display board. To help with the training of young biologists, SCBCP sponsored publication of the Hainan Vertebrate Key, compiled by Prof. Shi Haitao of Hainan Normal University. We have sponsored in part the establishment of a new specimen room in the South China Normal University, to ensure that unique animal specimens can be properly maintained and studied in the University. We funded Dr. Lu Wenhua, Prof. Li Zhenchang and three students of the South China Agricultural University and South China Normal University to study the diversity and seasonality of beetles. We have also sponsored a two-year botanical field survey at Qiniangshan in Dapeng Peninsula, Shenzhen, conducted by Mr. Zhang Yongxia, under the supervision of Prof. Xing Fuwu of the South China Institute of Botany.

Several SCBCP-sponsored projects are ongoing. One is the establishment of a seedling production site for native plants in Zengcheng City, Guangdong, led by Prof. Zhuang Xueying of South China Agricultural

土植物苗圃，和海南大学杨小波教授进行有关海南东部村落植物资源的研究。

由李兆元博士为广西西南白头叶猴制定的保育行动计划是我们的重点计划。白头叶猴面临非法捕猎和生境破坏，有关行动能舒缓其野生种群没落的燃眉之急。计划将于当地采取预防捕猎、保护及恢复生境、种群管理和宣传教育等措施。在三个白头叶猴出没的保护区中，其中两个保护区的村民有权在土地上砍伐植被，使该地的森林覆盖持续下降。是项行动计划会强调遏止短视的行为来维持人类及野生动物的可持续发展。这行动计划的草稿会先在广西由当地有关人士讨论，然后在二零零二年八月于北京举行的第十九届国际灵长类动物学会会议中再作讨论。

每份保育项目的申请均会独立考虑。欲知更多详情，请邮寄至中国香港特别行政区新界大埔林锦公路嘉道理农场暨植物园华南生物多样性研究队；或电邮: scbt@kfbg.org。

林咏怡、费乐思 (嘉道理农场暨植物园)

奖学金消息

自嘉道理农场暨植物园生物多样性奖学金于一九九九年成立至今，受惠学生已达十四名。一九九九年奖学金得主黄久香小姐已于去年毕业，她于五月提交的硕士论文「观光木种群遗传多样性的初步调查」已于六月通过评审。黄同学现正于华南农业大学修读博士课程。同年另一名奖学金得主韩荣兰小姐则基于技术问题而放弃了她原来的题目「华南真菌异养植物多样性及生境特点调查」，转为研究寄生植物及槲寄生的系统学。由于本奖学金不能在未与本

University. Another is a study of the vegetation resources used by villagers in eastern Hainan, conducted by Prof. Yang Xiaobo of Hainan University.

One major project is the compilation, by Dr. Li Zhaoyuan, of a conservation action plan for the White-headed Leaf Monkeys *Trachypithecus leucocephalus* of southwest Guangxi. This plan is urgently needed to counter the decline of the wild population through poaching and habitat loss. It will include measures for poaching prevention, habitat conservation and restoration, active population management, and public education. In two of the three reserves where the leaf monkeys occur, local villagers have rights to harvest vegetation, and forest cover has continued to decrease. The question of how to halt these short-sighted practises, and enable sustainable benefits to both people and wildlife, will be paramount in the plan. Following initial discussions in Guangxi, the draft action plan will be brought to the 19th Congress of International Primatological Society held in Beijing in August 2002 for further discussion.

Applications for conservation projects will be considered on an individual basis. For more information, please write or email to us. South China Biodiversity Team, Kadoorie Farm & Botanic Garden, Lam Kam Road, Tai Po, New Territories, Hong Kong Special Administrative Region, China; or email: scbt@kfbg.org.

VICKY LAM & JOHN FELLOWES (KFBG)

STUDENTSHIP NEWS

Since the KFBG Biodiversity Studentships were launched in 1999, fourteen students have been benefited from this scheme. One 1999 studentship winner, Miss Huang Jiuxiang, finished her M.Phil study last year. Miss Huang submitted her thesis titled "A Preliminary Study on Genetic Diversity of the Populations of *Tsoongiodendron odorum*" in May and passed the oral defence in June. She is now studying for a Ph.D. degree in South China Agricultural University. Another 1999 studentship winner, Miss Han Ronglan, has discontinued her "Study on Diversity and Habitat Characteristics of Mycoheterotrophic Flowering Plants in South China," after encountering practical difficulties, and is now undertaking research

园达成共识前转用于别的课题，我们深表抱歉，但仍衷心祝福韩荣兰新的研究项目能取得成功。

我们于二零零一年度共收到三十一份申请书；大部份申请人都成绩优异，所涵盖有关生物多性保护的范围也很广。本年度共颁发奖学金四个，评审准则包括该计划与保护华南生物多样性的相关性及重要性、时间及资源配合的可行性、候选人及导师的经验和候选人的永久居留地点。得奖人及有关资料详情已列于下表：*

二零零二年度的奖学金以研究居于天然栖息地，尤其是华南地区的动植物而设。本年度奖学金将于二零零二年五月起接受申请，欢迎所有于本年度及今年八月展开有关研究项目的硕士或博士生参加。如欲索取申请指引及表格，请来信至**中国香港特别行政区新界大埔林锦公路嘉道理农场暨植物园华南生物多样性研究队**；或电邮：scbt@kfbg.org。

林咏怡 嘉道理农场暨植物园

on parasitic plants and the systematics of the genus *Viscum*. Although regrettably the studentships are not transferable without prior agreement, we wish Miss Han the best of luck with her new project.

In 2001, 31 applications were received. Most were from high-calibre students and the research topics covered many areas in the field of biodiversity conservation. Four studentships have been awarded. The successful candidates were selected based on several criteria, including relevance and importance of the proposed project to biodiversity conservation in South China, feasibility in terms of time and resources, experience of the candidate and the supervisor, and the candidate's place of permanent residence. The successful candidates and their research topics are shown below *

Several KFBG Biodiversity Studentships for the year 2002 will be available for students studying fauna and flora in natural habitats, especially in South China. From May 2002 applications are welcome from all M. Phil. or Ph.D. students conducting relevant research commercing this Autumn/year. For application guidelines and a form please write or e-mail to the South China Biodiversity Team, Kadoorie Farm & Botanic Garden, Lam Kam Road, Tai Po, New Territories, Hong Kong Special Administrative Region, China; or email: scbt@kfbg.org.

VICKY LAM (KFBG)

*

姓名 Name	所属院校 Institute	导师 Supervisor	研究课题 Proposed project
董仕勇先生，博士研究生 Mr. Dong Shiyong, Ph.D. student	中国科学院植物研究所 Institute of Botany, CAS	张宪春教授 Prof. Zhang Xianchun	海南岛蕨类植物区系和地理分布规律的研究 Floristic and biogeographic studies of the pteridophytes from Hainan Island
李友邦先生，博士研究生 Mr. Li Youbang, Ph.D. student	浙江大学 Zhejiang University	丁平教授 Prof. Ding Ping	广西黑叶猴濒危现状及行为生态学的研究 Study on the conservation biology and behavioral ecology of Black Leaf Monkey (*Trachypithecus francoisi*) in Guangxi Zhuang Autonomous Region
张兵兰小姐，硕士研究生 Miss Zhang Binglan, M.Phil. student	中山大学 Zhongshan University	庞虹教授 Prof. Pang Hong	广东蜻蜓物种多样性及其在环境监察中的应用 Species diversity of dragonflies (Odonata) in Guangdong Province and use of these species as indicators of environmental quality
徐振华先生，硕士研究生 Mr. Xu Zhenhua, M.Phil. student	华南农业大学 South China Agricultural University	许再福教授 Prof. Xu Zaifu	车八岭国家级自然保护区膜翅目多样性研究 Study on Hymenoptera biodiversity in Chebaling National Nature Reserve

亚洲龟只的喜与忧

自嘉道理农场暨植物园野生动物拯救中心于1994年成立以来，动物保育部对亚洲淡水龟类、水龟和陆龟的保护工作从未松懈。透过协助充公或被遗弃的龟只康复，我们与世界各地龟类保育机构的联系越来越密切。如今，我们的使命包括提高大众对保护龟类的意识、研究野生龟鳖和发展龟类迁地保育计划。

我们正要落实为极危物种发展以保育为目的的人工繁殖种群(又称为活体基因库)，首个要保护的目标是在本地无人不晓，但在野外却极度濒危的金钱龟(三线闭壳龟)。过去两年我们积极改善饲养技术和园内设施以照顾及繁殖龟类，至今已成功孵化出八种共二十八只幼龟，这些成功繁殖和孵化的龟种包括：黑池龟、沼龟、黄喉拟水龟、安南拟水龟、三线闭壳龟、马来闭壳龟、黄沿闭壳龟和缅甸陆龟。

虽然大部份龟只都在特别设计给爬行动物的孵化机内人工孵化，但由于某些物种在半天然的饲养环境下也能自我孵化繁殖，所以这些成果也不能尽归功于我们。

二零零一年十二月，野生动物拯救中心接收了估计共重四点五吨、约九千至一万只非法进口的龟，将我们的龟类保育工作推向另一高峰。尽管龟只被送抵时情况恶劣，其中的七千五百四十四只却生存下来，约二千至二千五百只则基于严重受伤或病重而需人道毁灭。经过一番努力，在获得世界自然保护联盟的伙伴龟鳖拯救联盟(TSA)的协助下，四千二百一十八只龟终被运到北美和欧洲多所设备完善的繁殖中心作保育用途，成为活的基因库，以延续大自然这点脆弱的生命。

PAUL CROW (嘉道理农场暨植物园)

ASIAN TURTLE BOOM AND BUST

Since development of the Wild Animal Rescue Centre at KFBG in 1994, Asian freshwater turtles, terrapins and tortoises have played an ever more prominent role in the work of our Fauna Conservation Department. Efforts to rehabilitate confiscated or abandoned turtles have led to the department networking with chelonian conservationists around the world. Conservation efforts at KFBG now include raising of public awareness, research on wild chelonians and development of *ex-situ* conservation plans.

Plans are being finalised to develop assurance colonies or living gene banks of those most critically endangered species. Our first targeted species will be the Three-lined Box Turtle *Cuora trifasciata*, a species well known locally but critically endangered in the wild. Over the past two years our staff have been developing the husbandry skills and facilities required to maintain and breed turtles in captivity and have to date successfully hatched over 28 turtles of eight different species. Species successfully bred and hatched over the past two years include Black Pond Turtle *Geoclemys hamiltoni*, Indian Eyed Turtle *Morenia petersi*, Yellow Pond Turtle *Mauremys mutica*, Vietnam Leaf Turtle *Mauremys annamensis*, Three-lined Box Turtle *Cuora trifasciata*, Malaysian Box Turtle *Cuora amboinensis*, Yellow-margined Box Turtle *Cuora flavomarginata* and Elongated Tortoise *Indotestudo elongata*.

We cannot claim all the glory for these achievements, as some of the species have reproduced, incubated and hatched their offspring without our intervention in the semi-natural surrounds of their enclosures. Most, however, were artificially incubated and hatched in purpose-built reptile incubators, and reared under careful supervision.

In December of 2001 our efforts in turtle conservation expanded enormously when the KFBG Rescue Centre received a seizure of illegally shipped turtles numbering around 9,000-10,000, and weighing an estimated 4.5 tons. Despite their poor condition on arrival most of the shipment (7,544 animals) were kept alive, while between 2,000 and 2,500 were humanely

海南教师来港学习

应海南师范大学的要求，嘉道理农场暨植物园于二零零一年七月二十二日至二十九日，在香港举办了一个有关建立海南自然历史博物馆和海南省生态环境教育中心的培训课程。在为期八天的培训课程里，海南师范大学的教师们访问了本港多所教育中心和博物馆，参观各项环境教育展览及活动，从中学会有关的筹备和设计技巧，同时汲取策划和管理此类中心成功和失败的经验。他们此行满载而归，对日后的工作得到新的启发及激励，我们热切期待他们的进展。

林咏怡 嘉道理农场暨植物园

英国石油公司在中国进行的保育计划

上述计划由国际鸟类联盟和英国野生动植物保护国际这两家主要的国际保育组织与英国石油公司合作进行的。其宗旨在于资助和鼓励学生在一些‘具国际保育优先’的地方推行长期本地保育计划。现在这个保育计划已经第十七年，在五十五个国家内共资助了一百七十五个保育方案和计划。为了培训未来的保育专业人员，该计划主要为大学生提供意见、安排研习班及给予财政上的资助。

英国石油公司的保育计划近年来一直与中国建立联系。于二零零一年，中国保育队伍于一年内获得五项赞助，这是史无前例的。该计划辅助保育队伍研究崇明岛的水鸟及洞庭湖国家级自然保护区内湿地雀鸟的栖息地和种群变化，也为山西省阳县的朱鹮进行保育工作。另外两个计划则在华南展开。由于现时对极度濒

destroyed as their injuries or sickness were too severe to expect recovery. Through a mammoth effort, 4,218 of the survivors departed Hong Kong to be placed in well-equipped breeding centres in North America and Europe, with the support of the Turtle Survival Alliance (TSA), an IUCN partnership network working towards captive management of freshwater turtles and tortoises. The animals will found a series of living gene-banks for their species, providing a safety net should they be driven to extinction in their wild habitats.

PAUL CROW (KFBG)

HAINAN TEACHERS LOOK FOR HONG KONG LESSONS

From 22 to 29 July 2001 KFBG organised a training course in Hong Kong on the development of the Hainan Natural History Museum and Ecological and Environmental Education Centre. The participants were teachers from Hainan Normal University, who are responsible for setting up and running the Museum and Centre in Haikou, and had themselves proposed the Hong Kong course. During the eight days of their stay, they visited various education centres and museums to see different types of environmental education displays and activities, and learn of the techniques involved in their preparation and design. They also heard some of the experiences, good and bad, in planning and managing the Hong Kong centres. Participants returned to Haikou with some different ideas and renewed enthusiasm for the task in hand; we look forward to hearing of their progress.

VICKY LAM (KFBG)

BP CONSERVATION PROGRAMME IN CHINA

The BP Conservation Programme is a partnership between two major international conservation organisations, BirdLife International and Fauna & Flora International (FFI), and the multinational corporation, BP. It aims to support and encourage long-term student conservation

危的海南鹎认识非常有限，所以由安树强率领的二零零一广西大学研究队仍然埋首寻找海南鹎的工作。害羞的海南鹎喜欢在夜间出没，令研究过程困难重重。研究队伍一直在曾录得海南鹎出没的广西南部搜集资料。由北京的中科院动物研究所胡慧建带领在海南岛的项目是一九九六和一九九九年保育计划的延续，在五指山原始林的大型食肉动物和灵长类动物可谓前路茫茫，当中包括黑长臂猿。研究队致力为这些物种的保育状况作出量化的评估，从而制定可行的长期保育行动计划，确保有关物种受到保护。研究队还会与海南林业局合作协助职员培训和促进地方学校的保育教学。

如欲查询上述计划资料或联络有关职员，可浏览网页： http://www.bp.com/conservation。

PAUL MATHEW (英国石油公司保育计划)

海南鹎：好消息，还是坏消息

在二零零零年，鸟类红色名录的权威 — 国际鸟类联盟，根据湖北省神农架报称海南鹎在当地有一健康种群而将海南鹎由极度濒危物种降至濒危物种。为了调查有关报导，嘉道理农场暨植物园于二零零一年派考察队联同世界自然保护联盟 - 物种生存委员会鹭鸟专家组一位代表(来自法国地中海湿地保育研究中心 — La Tour Du Valat 的 Olivier Pineau 先生。)前往湖北。他们还到访了中国南部地区，包括广东车八岭、江西九连山和海南中部山脉的数个地区，最后得出不同的结论。二零零零年在车八岭，考察人员连续两晚发现海南鹎，但在神农架曾录得有海南鹎踪迹的地点却已被建成水库，于这次的考察中，即使我们在水库区内广泛地进行调查，但仍然找不到海南鹎，而且在神农架保护

projects which address global conservation priorities at a local level. The programme is now in its 17th year, and has supported over 175 projects in 55 countries. It currently works towards helping students through advice, training workshops and financial awards, primarily targeting university students to help train the conservationists of the future.

The Programme has been developing its links with China over recent years. Five Awards have been given to Chinese teams in 2001, the most ever given to one country in a single year. The Programme is helping to support teams studying the waterbirds of Chongming Island; habitats and population dynamics for wetland birds in Dongting Lake National Nature Reserve; and work on the Crested Ibis in Yangxian, Shaanxi province. Two other projects are in South China. The GXUE 2001 team from Guangxi University, led by An Shuqiang, has been searching for the critically endangered White-eared Night Heron, about which very little is known. This shy nocturnal species is very difficult to study and the team has been trying to collect any information from the areas it has been recorded in southern Guangxi. The Hainan Island work, led by Hu Huijian from the Institute of Zoology, Beijing, is a follow-up of previous projects in 1996 and 1999. These presented a bleak future for the great carnivores and primates, including the Black Gibbon, in the virgin forests of Wuzhishan. The team aims to produce a quantitative assessment of the conservation status of these species and develop practical long-term conservation action plans to ensure their protection. In collaboration with the Hainan Forestry Bureau, they will help train staff and encourage conservation education in local schools.

More information on these projects and the BP Conservation Programme, and contact details for projects and staff, are available at www.bp.com/conservation.

PAUL MATHEW (BP CONSERVATION PROGRAMME)

区内也未能获得任何可靠的报告。此外，该考察队也没有在江西和海南发现任何海南鹎的报告或踪影。我们最近从数名国内鸟类学家和香港观鸟专家口中得知，海南鹎仍然继续生存，二零零一年十二月仍在广西和广东两个已知的分布点观察到三只海南鹎。

至于好消息方面，国际鸟类联盟的鸟类学家近日证实超过二十五年未被录得的海南鹎至今仍在越南出没 (*World Birdwatch* 23(3): 5, 2001)。在二零零一年四月和五月间，有人在日间发现一只海南鹎在 Bac Kan 省 Lung Ly 石灰岩森林的高树上栖息。有兴趣人士可浏览以下网页，阅读整份报告内容。

http://www.birdlife.org.uk/news/Newsitem_display.cfm?NewRecID=185&NewType=N.

为了解海南鹎在中国的分布和现况，实地考察是必须的。国际鸟类联盟也要求更广泛地调查海南鹎在越南的现况。由于越南北部和华南地区面临的威胁非常类似，嘉道理农场暨植物园希望与国内外专家合作，制定一套适合海南鹎整个分布区的全面保育行动计划。

陈辈乐、李国诚 (嘉道理农场暨植物园)

拯救华南虎

拯救中国虎国际联合会 (SCT) 是一所慈善机构，于二零零零年成立，其始创人是于北京出生的全莉女士，曾任意大利品牌 GUCCI 的市场部主管。该会透过教育、游说和筹款等活动提高大众对华南虎所面对的困局的认识，并积极保护它们。现存的野生华南虎估计只有十至三十头，而在中国动物园内的则约有六十头。为了更准确评估华南虎的数目，拯救中国虎国

WHITE-EARED NIGHT HERONS: GOOD NEWS, BAD NEWS

In 2000 BirdLife International, the Red List Authority for birds, downgraded White-eared Night Heron *Gorsachius magnificus* from Critically Endangered to Endangered, following reports of a healthy population near Shennongjia, near Hubei Province. To investigate these reports, KFBG sent a team to Hubei in 2001, including a representative of the IUCN SSC Heron Specialists Group, Mr. Olivier Pineau from La Tour Du Valat, a research center in France for the conservation of Mediteranen Wetlands. The team also visited sites in the south of China including Chebaling in Guangdong, Jiulianshan in Jiangxi, and various sites along the mountain range of central Hainan. Results were mixed. While the species was seen (as in 2000) on two consecutive nights at Chebaling, the site near Shennongjia where the species had been reported has since been flooded. No sign of the bird was found at Shennongjia despite extensive survey effort, and no credible reports came from within the protected area. The team also located no reports or signs in Jiangxi and Hainan. Recent communications with various mainland ornithologists and Hong Kong birdwatchers confirmed the continued presence of this species in two known sites; three birds were seen in December 2001 in Guangxi and Guangdong.

On the positive side, the continued occurrence of this species in Vietnam, where it was last recorded more than 25 years ago, was recently confirmed by ornithologists from BirdLife International (World Birdwatch 23(3): 5, 2001). One bird was seen in daytime roosting in high trees in a stream valley in the Lung Ly limestone forest, Bac Kan province in April and May 2001. Interested readers can access the full report in the website:

www.birdlife.org.uk/news/Newsitem_display.cfm?NewRecID=185&NewType=N.

While more fieldwork is clearly needed to understand the current distribution and status of this species in China, BirdLife International have also called for more extensive surveys in Vietnam to assess the species' status there. Since the threats to survival in

际联合会更为在中国进行的野外考察提供资助。国内的保育官员获得由 Ron Tilson 博士 (美国明尼苏达动物园) 率领的中美专家考察队协助，在野外设置红外线热感应自动照相机。在一九九三年至二零零零年间，他们更目睹华南虎个体，收集了华南虎的毛发、抓痕、足迹、粪便、食物残骸等证据，发现证据数目超过二千宗。

国家林业局开展的华南虎保育行动计划旨在恢复受损生境及野生种群，并将老虎保育工作结合当地(社区)发展。中国政府除了扩大自然保护区及生态走廊外，还有将华南虎经常出发的农地退耕还林，包括江西宜黄自然保护区、福建风阳山及百山祖自然保护区和位于湖南、江西和广东交界的南岭。专责保育华南虎的部门经已成立，他们拥有独立的巡逻队和巡逻站，为了提高专业水平，还会定期接受常规培训。差不多四千个家庭将会迁离华南虎的主要栖息地。与此同时，我们也在福建梅花山进行研究和推行种群恢复计划。如要加深了解工作情况，请浏览网页：http://www.savechinastigers.org 或电邮至：tigerli@netcomuk.co.uk。

SARAH EMERY (拯救中国虎国际联合会)

猫科动物 (动态照片)

在世界自然保护联盟猫科动物专家小组推出的新一期猫讯(Cat News)中，编辑呼吁研究人员应随著考察科技的提升多对小型野生猫科动物作生态研究 (P. Jackson, 2001, *Cat News* 35: 1)。大家可浏览网页 http://www.carnivoreconservation.org 搜寻各期通讯。安装红外线热感应自动照相机已证实是现今研究野猫最有效的取样技术。在印度尼西亚的苏门答腊岛，J. Holder (Cat News 35: 11-14) 成功使用这

northern Vietnam and southern China are very similar, KFBG hopes to collaborate with national and international experts to formulate a comprehensive action plan, applicable in the entire range of the species.

BOSCO CHAN & LEE KWOK SHING (KFBG)

FIGHTING FOR TIGERS

Save China's Tigers (SCT) is a charity founded in 2000 by Beijing-born Ms. Quan Li, former head of marketing for Gucci International. The charity's aim is to raise awareness of the plight of the South China Tiger and to strive for its preservation through public education, lobbying and fundraising. Current estimates of the number of wild South China tigers are between 10 and 30, with around 60 in captivity in Chinese zoos. To help reach a more precise assessment, SCT is sponsoring a wild tiger survey in China. Local conservation officers, aided in the field by a joint USA-China expert team led by Dr Ron Tilson (Minnesota Zoo, USA), have set up camera traps. From 1993 to 2000, over 2,000 pieces of evidence were gathered, ranging from traces of fur, scratch marks, pugmarks, faeces and prey remains to roaring and actual sightings.

The State Forestry Administration has initiated a South China Action Plan intended to restore habitat and wild populations, and integrate tiger conservation into local development. The Government has started expansion of nature reserves and corridors, reforesting agricultural lands around tiger strongholds including Yihuang Nature Reserve (Jiangxi), Fengyangshan-Baishanzu Nature Reserve (Fujian) and Nanling at the borders of Hunan, Jiangxi and Guangdong. Special Protection Agencies with their own patrol teams and stations have been established, and regular training courses are held to maintain their proficiency. Almost 4,000 families will be relocated from key tiger habitats. At the same time a research and rehabilitation project has been set up at Meihuashan in Fujian. For further details of SCT's work, check the website (http://www.savechinastigers.org) or send an email (tigerli@netcomuk.co.uk).

SARAH EMERY (SCT)

技术拍摄到岛上七个野猫物种中的五种。华南区内有三种小型野猫栖息，分别是豹猫 *Prionailurus bengalensis*、金猫 *Catopuma temminck* 和云豹 *Neofelis nebulosa*。事实上，我们对这些在华南地区内的野猫的生态认识不多，更惶论应该急切了解有关它们的保护状况。我们鼓励对这些匿影藏形的物种多加考察、研究。

陈辈乐 (嘉道理农场暨植物园)

由生物多样性工作组提供的资料

生物多样性工作组仍然致力进行中国物种信息系统和中国哺乳动物指南的工作。任何专家、保护区或个人，只要提供有关脊椎动物物种或保护区的研究论文、出版物、高质量图片或第一手信息，我们将酌情赠送以下书籍：

* 约翰·马敬能、卡伦·菲利普斯、何芬奇，2000。《中国鸟类野外手册》长沙：湖南教育出版社。32开，彩图256页，文字571页。(76元人民币)
* 汪松、解焱、王家骏，2001。《世界哺乳动物名典——拉汉英》长沙：湖南教育出版社。32开，542页〔精装本〕。(27.5元人民币)
* 汪松、约翰·马敬能，1997。《保护中国生物多样性》北京：中国环境科学出版社 (主要内容：生物多样性工作组1992-1997年报告，以及野生动植物贸易，生物多样性、濒危状况和生物多样性经济价值评估等，有英文版) (中文32开，278页，54元人民币；英文16开，221页，220人民币)。
* 汪松、谢彼德、解焱，2001。《保护中国生物多样性 (二)》北京：中国环境科学出版社 (主要内容：生物多样性工作组1998-2001年

CATS (THE MOTION PICTURE)

In the recent issue of Cat News, the newsletter of the Cat Specialist Group of the World Conservation Union (IUCN), the editor called for more ecological research on the lesser cats in the wild, following advances in the survey technology available to field researchers (P. Jackson, 2001, Cat News 35:1). A searchable index of the newsletter is available from the website: www.carnivoreconservation.org. The technique proving most efficient in sampling wild cats is camera-trapping. J. Holden in the same issue (pp. 11-14) demonstrated the potential of this technique, which yielded successful photographic records of five of a possible seven wild cat species in Sumatra, Indonesia. South China supports three species of lesser cats, namely Leopard Cat *Prionailurus bengalensis*, Asiatic Golden Cat *Catopuma temmincki*, and Clouded Leopard *Neofelis nebulosa*. Virtually nothing is known about their ecology, or more urgently their conservation status, in our region. More field studies are encouraged on these elusive species.

BOSCO CHAN (KFBG)

AVAILABLE FROM BWG

Work continues on BWG's China Species Information System, and on the guide to China's mammals. Experts, nature reserves or individuals who provide research papers, publications, high quality photographs or first-hand information on vertebrates or nature reserves may receive a free copy of the following books at our discretion:

* MacKinnon, John, Phillipps, Karen and He Fenqi. 2000. A Field Guide to the Birds of China. Changsha: Hunan Educational Press. A5-sized, 256 pp. of colour plates, 571 pp. of texts. (RMB¥76.00)
* Wang Sung, Xie Yan and Wang Jiajun. 2001. Dictionary of Mammals' Names-Latin-Chinese-English. Changsha: Hunan Educational Press. A5-sized, 542 pp. (hard-cover) (¥27.50)
* Wang Sung and MacKinnon, John. 1997. Conserving China's Biodiversity. Beijing: Environmental Science Press. (Main contents: Reports of the Biodiversity Working Group from 1992 to 1997, on wildlife trade,

报告，以及生物安全、入侵物种、高原草地关键种、生物多样性信息管理等，有英文版)(中文16开，233页，46元人民币；英文16开，265页，120人民币)。

*《生物多样性公约指南》，1997。科学出版社(有条件发送)16开，131页。

以下是由BWG免费送出的书籍：

* IUCN 中文通讯 2-14期。

* IUCN 1998《IUCN物种重引入指南》瑞士资讯出版社，英国牛津。32开，20页。

* 解焱、汪松(主编)2000。《东北亚和中亚地区国家生物多样性策略和行动计划通讯》(3/4期)16开，35页。

* 解焱、汪松(主编)2001。《东北亚和中亚地区国家生物多样性策略和行动计划通讯》(5/6期)16开，35页。

* 约翰·马敬能、解焱(主编)2001。《开发建设中的生物多样性原则》中国林业出版社。大32开，图片100页。

* 约翰·马敬能、解焱(主编)2001。《利用天然植被恢复中国的退化环境》中国林业出版社。大32开，50页。

biodiversity, endangered status and the economic value of biodiversity. Chinese version: A5-sized, 278 pp, RMB¥54; English version: A4-sized, 221pp, RMB¥220.)

* Wang Sung, Schei, Peter Johan, and Xie Yan. 2001. Conserving China's Biodiversity (II). Beijing: China Environmental Science Press. (Main contents: Reports of the Biodiversity Working Group from 1998 to 2001, on biosecurity, invasive species, keystone species on alpine grassland, and biodiversity information management. English version is available.) (Chinese version: A4-sized, 233 pp, RMB¥46; English version: A4-sized, 265 pp, RMB¥120.)

* A Guide to the Convention on Biological Diversity. 1997. Science Press. A4-sized, 131 pp. (given with conditions)

The following publications are also available free of charge from BWG:

* IUCN Chinese Newsletter Vols. 2-14.

* IUCN Guidelines for Re-introduction. Switzerland Information Press, Oxford, UK. A5-sized, 20pp.

* Xie Yan and Wang Sung (eds.), 2000. Newsletter of National Biodiversity Strategies and Action Plans for Northeast and East Central Asia. Volume 3/4. A4-sized, 35pp.

* Xie Yan and Wang Sung (eds.), 2001. Newsletter of National Biodiversity Strategies and Action Plans for Northeast and East Central Asia. Volume 5/6. A4-sized, 35pp.

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本园的人事变动

在二零零一年，华南生物多样性保育项目研究队的人事有些许变动。侯智　口博士已于二零零一年夏季离开本园，现于香港大学的生态学及分类学系担任助理教授。我们万分感激侯智恒博士一直不辞劳苦地为本项目服务，衷心希望他新工愉快。他会继续为本园的华南和植树项目出任顾问一职。同时，陈辈乐博士和吴世捷博士相继加入华南生物多样性研究队，两位都是本园的高级保育主任，刚在香港大学完成博士课程，其中陈辈乐博士研究溪涧和鱼类保育，而吴博士则研究野生杜鹃。二零零一年十一月，林咏怡晋升为高级保育主任。此外，查敏立先生凭其丰富的国际工作经验加入本园为执行董事。

* MacKinnon, John and Xie Yan (eds.), 2001. Biodiversity Principles for Developers and Planners. Chinese Forestry Publication. A5-sized, 100 pictures.
* Mackinnon, John and Xie Yan (chief eds.), 2001. Restoring China's Degraded Environment: the Role of Natural Vegetation. Chinese Forestry Publication. A5-sized, 50 pp.

Please mail your information to: Wang Sung and Xie Yan, Institute of Zoology, CAS, No. 19 Zhongguancun Lu, Beijing, 100080, or fax to: 010 6264 7675. Those providing relevant information will be rewarded with complimentary gift book(s). For book purchase, please provide an additional ¥6.00 for registered postage.

PERSONNEL CHANGES AT KFBG

2001 has seen changes among the senior conservation officers in the South China Biodiversity Conservation Programme (SCBCP) team. Dr Billy Hau left KFBG in the summer to take up a job as Lecturer in the Department of Ecology & Biodiversity, The University of Hong Kong (HKU). The Programme owes much to Billy's dedication and efficiency, and we wish him well in his new work; he continues to act as an advisor to KFBG on the South China and reforestation programmes. Meanwhile Dr Ng Sai Chit and Dr Bosco Chan have both joined the team as senior conservation officers, following respective PhD studies at HKU on rhododendrons and stream and fish conservation. In November, Vicky Lam was promoted to senior conservation officer. KFBG also has a new Executive Director, Manab Chakraborty, who brings wide international experience to our work.

第一届国际兰花保育会议

The first International Orchid Conservation Congress

萧丽萍[1]及 Shelagh KELL[2] 撰文
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第一届国际兰花保育会议已于二零零一年九月廿四至廿八日在澳洲西部的柏斯举行。是次会议十分成功，有来自廿一个国家共 132 位的代表参与，当中包括兰花保育专家、研究人员、政府官员及兰花业内人士等。来自中国的代表共五位，分别是国家林业局野生动植物保护司野生动植物管理处的王春玲女士、中华人民共和国濒危物种进出口管理办公室的鲁兆莉女士、中国科学院植物研究所的罗毅波博士及金效华先生、及本文第一作者。

是次会议涵盖的题目包括兰花的系统发育、授粉和种群生物学、繁殖的研究、种质储存、野生兰花贸易的管理及其复原计划。这让兰花专家们及其他从事与兰花保育有关的人士得以学习和分享兰花生物学及兰花保育各层面的现况。就以泰国国家农业大学的副教授—Piluek Chitrapan 女士进行的「泰国以生态旅游为本的野生兰花保育」计划为例，她分别在湄宏顺省的三条村落与当地居民进行野生兰花保育并成立兰花生态旅游径的试验，其初步成果颇成功。

蜂兰 *Diuris laxiflora*，在澳洲西部分布甚广及常见的一种兰花，在会议中期野外考察时录得。
Diuris laxiflora (Bee Orchid), a widespread and common orchid in Western Australia. It was found during the mid-week trip

The first International Orchid Conservation Congress was held from 24 to 28 September 2001, in Perth, Western Australia. It was a great success, with 132 delegates from 21 countries including orchid conservation specialists, researchers, government officials and practitioners. There were five delegates from China, namely Ms. C.L. Wang from the Wild Fauna and Flora Conservation Dept., State Forestry Administration, Ms. Z.L. Lu from the Endangered Species of Wild Fauna and Flora Import & Export Management Office, the CITES Management Authority, Dr. Y.B. Luo and Mr. X. H. Jin from Institute of Botany, Chinese Academy of Sciences, and the first author.

The Congress covered topics including phylogeny, pollination and population biology, propagation science, germplasm storage, managing the wild orchid trade and recovery

在会议举行那星期中段，与会者在澳洲西部的灌木区及林区进行了一天丰硕的野外考察，超过十五种野生兰花欣然绽放。大家一边享受著醉人的自然美景，一边分享著该地区在兰花保育方面的成果，收获甚丰。大会亦在会议举行前安排了一个有关兰花保育技术的三天密集式训练课程，有来自十二个国家共三十五位代表参加，成绩理想。

世界自然保护联盟、物种生存委员会、兰花专家组在会议进行期间召开了一个半天会议，由Phillip Cribb 博士 (主席)及Shelagh Kell女士(行政主任) 主持，有廿二位兰花专家组成员参与，以及七十位有兴趣的代表旁听。在该兰花专家组会议中，每个地区代表都汇报自己的工作，包括非洲及马达加斯加、澳洲、东亚、印度次大陆、中美洲、北美及南美。该兰花专家组会议的主要结果包括下列各项：

1. 确定有急切需要寻求充足资源支持兰花专家组秘书处、地区办事处及兰花专家组各专题委员会的工作能持续进行。

2. 热带东南亚区兰花专家组正式成立，由来自马来西亚雪兰莪州博特拉大学的Faridah Qamaruz Zaman 博士出任主席。

3. 由波多黎各大学Raymond Tremblay教授出任主席的兰花专家组就地保育委员会正式成立。

4. 兰花专家组迁地保育委员会主席 Philip Seaton 宣布要建立一个兰花种质资源库网络，尤其重视中美洲及南美洲地区，这是一项重大的进展。

5. 讨论如何为世界自然保护联盟红色名录项目提供数据以纳入世界自然保护联盟濒危物种红色名录的一般策略。有关机构和人士已采取初步

planning. It provided the opportunity for orchid professionals and others involved in orchid conservation to learn and share current practices in all aspects of orchid biology and conservation. For example, Mrs. Piluek Chitrapan, an associate professor at Kasetsart University, told of her project "Wild Orchid Conservation for Ecotourism in Thailand", which set up quite a successful experiment in wild orchid conservation and organized an educational eco-orchid trail in collaboration with the residents of three villages in Maehongson Province.

A fruitful one-day mid-week field trip to shrubland and woodland areas allowed participants to see more than 15 species of wild orchids in flower, enjoying the marvellous views and sharing the successes of orchid conservation in Western Australia. Before the commencement of the Congress, a successful three-day intensive training course in orchid conservation techniques was held, attended by 35 participants from 12 countries.

A half-day meeting of the Orchid Specialist Group (OSG) of the Species Survival Commission (SSC) of IUCN (The World Conservation Union) was held during the Congress, chaired by Dr. Phillip Cribb (OSG Chair) and Ms. Shelagh Kell (OSG Executive Officer). It was attended by 22 OSG members and 70 interested delegates. During the meeting, each Regional OSG presented their work: Afro-Madagascar, Australia, East Asia, Indian Subcontinent, Meso-America, North America and South America. Key outcomes from the meeting included:

1. Recognition of an urgent need to find adequate resources to support the continued operation of the OSG Secretariat, Regional Group offices and the work of the OSG thematic committees.

2. Inauguration of a new Regional Group for Tropical Southeast Asia, chaired by Dr Faridah Qamaruz

措施建立机制，让澳洲国家红色名录的资料得以妥善传递。

6. 已获悉各个专家组即将发放物种信息服务 (简称SIS)，这数据库不但有助于制订红色名录，更是一种有效的工具来储存及提取所有与分类单元有关的资料，包括来自地理信息系统 (GIS) 设备的资料。

透过是次兰花保育会议作出了一些概括性的结论如下：

1. 祝贺一个综合保育概念的成立。

2. 藉著新的网络联系而带来更多互动与合作的契机。

3. 热带兰花保育资讯的交流获得加强。

4. 是次会议有不少年轻的与会者，他们在世界各地致力于兰花的研究和保育，为兰花的科研与保育带来复兴时期。

是次保育会议亦草拟了一份提案如下：

在地球所有有植被的大陆上生长的植物类群中，兰科植物是其中的旗舰。它们在人类文化、

中华人民共和国国家林业局及濒危物种进出口管理办公室的官员 (王春玲和鲁兆莉女士) 于会议中期野外考察时在研究野生兰花。

Chinese officials (Ms. C.L. Wang and Ms. Z.L. Luo) of the State Forestry Administration and CITES Management Authority studying wild orchids in the field during the mid-week trip of the Congress.

Zaman, from University Putra, Selangor, Malaysia.

3. Establishment of the OSG *in situ* Conservation Committee, chaired by Professor Raymond Tremblay, University of Puerto Rico.

4. Announcement of the great headway made by Philip Seaton, Chair of the OSG *ex situ* Conservation Group, in establishing a network of orchid germplasm banks, particularly in the Meso- and South American Regions.

5. Discussion of a general strategy for supplying data to the IUCN Red List Programme, for inclusion in the IUCN Red List of Threatened Species. Initial steps are being taken to establish a mechanism for transfer of data from Australian National Red Lists.

6. Notification that the Species Information Service (SIS) will soon be released for use by Specialist Groups. This database will not only assist in the Red Listing process, but is also a powerful tool for storage and retrieval of all taxon-related data, including that from GIS facilities.

Through the Congress, some general conclusions emerged:

1. Celebration of the concept of integrated conservation;

2. The increased level of interaction and fellowship has resulted in new networking opportunities;

3. Information exchange for tropical orchid conservation has been promoted; and

4. There has been an orchid renaissance, with a large number of young delegates at the Congress who are active in orchid studies and conservation around the world.

A resolution of the Congress was drafted, which states:

科学及园艺方面均占重要地位，然而现今已知三万个兰花物种之中的超过三份之一都面临威胁。第一届国际兰花保育会议的与会者都承诺致力达成有意义的兰花保育工作，为此他们呼吁：

一) 生物多样性公约 (CBD) 的所有缔约国采纳全球植物保育策略 (Global Strategy for Plant Conservation)草案(可参考网页 http://www.biodiv.org/programmes/cross-cutting/plant/default.asp)，该草案将于本年举行的第六届缔约国大会 (COP)中提出；

二) 根据全球策略草案列出的一般目标设立兰花保育目标；

三) 兰花专家组要有充足资源来协助及追踪上述保育运动的实践状况，并向下一届国际兰花保育会议 (2003) 汇报。

总括而言，是次会议中展示的资料对现行及计划中的兰花保育项目都很有帮助。欢迎对东亚区 (如中国、韩国、日本及俄国) 兰花保育及相关研究有兴趣的研究人员及爱好者与兰花专家组东亚区主席萧丽萍女士联络 (电邮：lpsiucon@kfbg.org)。

Orchids represent a flagship plant group known from all vegetated continents on earth. They have a high profile in human culture, science and horticulture yet over one third of the 30,000 recorded species are under threat. The delegates to IOCC are committed to achieving meaningful conservation of orchids and to this end call for:

a) adoption, by all Parties to the Convention on Biodogical Diversity (CBD), of the draft Global Strategy for Plant Conservation (see http://www.biodiv.org/programmes/cross-cutting/plant/default.asp) which will be proposed at the 6th Conference of Parties (COP) this year;

b) setting of conservation targets for orchids based on the generic targets in the draft Global Strategy;

c) OSG to be resourced to facilitate and track the implementation of these conservation actions and to report to the next IOCC (2003).

As a whole, the information presented at the Congress will be helpful for orchid conservation projects, both existing and planned. Researchers and enthusiasts who are interested in orchid conservation and related studies in East Asia (including China, Korea, Japan and Russia) are welcome to contact Ms. Gloria Siu, the Chair of the East Asia Regional OSG (e-mail address: lpsiucon@kfbg.org).

人工繁殖与放回野外——是保护濒危物种的未来方向吗？

Captive breeding and translocation - Is it the way forward for conservation endangered species?

刘惠宁 / 香港嘉道理农场暨植物园
由李凯盈、卢苓芳及刘惠宁译

by Michael LAU
Kadoorie Farm and Botanic Garden

参照世界自然保护联盟红皮书(Hilton-Taylor, 2000)列出的惊人濒危物种数目，可见全球生物多样性面临的威胁正不断增加。为了防止濒危物种走向灭绝，保育运动的势头不断增大，为濒危物种进行人工繁殖及往后的「放回野外」(即是把个别个体放归野外，从而建立、重建或增加该物种种群的数目)也日趋普遍。这些积极的干预措施看似很有道理，因为如果一切发展顺利，不但能使该濒危物种的个体增加，令绝种的可能性减低，亦能引起关注及加深普罗大众对保育的认识。麋鹿 *(Elaphurus davidianus)* 和朱鹮 *(Nipponia nippon)* 便是在中国出名的例子。但是这并不代表推行这些保育措施没有危险(Dodd and Siegel, 1991; Reinert, 1991; Rahbek, 1993)，所以在计划实施之前，充份评估风险是很重要的。

成功的人工繁殖计划，通常都有赖对该物种的繁殖生物学、生理学、社群架构营养以及其他需求等知识掌握得好。但当计划新项目时，这些资料常常缺乏，而要找出合适的方法来饲养及繁殖濒危物种亦往往需时。获得繁殖种源以及维持它们的基因整全性也是一个忧虑，尤其是对于极

The world's biodiversity is increasingly at risk, as is shown by the large number of threatened species included in the 2000 IUCN Red List (Hilton-Taylor, 2000). Conservation effort has gained momentum and active measures are being taken to save endangered species from extinction. Captive breeding of endangered species and subsequent translocation (i.e. the intentional release of individuals of a species to establish, re-establish or augment a population of that species) to the wild is gaining popularity. These active interventions seem to make good sense because, if successful, they will increase the overall population size of an endangered species and make it less prone to die out. They would also raise a lot of publicity and increase awareness among the general public. Pere David's Deer *(Elaphurus davidianus)* and Crested Ibis *(Nipponia nippon)* are well-known examples in China. However, these kinds of conservation measures are not without pitfalls (Dodd and Siegel, 1991; Reinert, 1991; Rahbek, 1993) and the risks involved need to be fully considered before any such programmes are undertaken.

To be successful, captive-breeding programmes often require a sound knowledge of the reproductive biology, physiology, social structure, nutritional and other requirements of the species concerned. This knowledge is often not available when a new project is planned and finding out the proper way of maintaining and breeding the endangered species in captivity can take a long time. Securing the founder stock and maintaining its genetic

罕有的物种来说，捕捉或饲养时造成的伤亡往往会对该物种造成非常沉重的打击，更不用说舆论负面的报导。有害的基因改变可以在人工饲养过程中出现，如种源效应、遗传漂变和近亲繁殖都会影响物种后代的健康，一旦把它们放归自然，其存活率必然下降 (Dobzhansky, 1970; Mallinson, 1995)。人为的筛选亦能令人工繁殖的个体适应人工条件而非自然环境，例如最能应用人工饲料的个体当然会在饲养下长得最好，繁殖最多，但它们被放回野外时就可能不懂全面使用野外多样的食物。此外，人工饲养往往会令动物养成不良习惯或丧失某些有用的谋生技能，这对于捕猎或群居的兽类和雀鸟尤甚，因为它们不单靠遗传得来的本能谋生，有些技能必须在后天学习。在桂林熊虎山庄经人工繁殖的老虎便是一例，它们保留了狩猎的本能，却连容易的猎物也不能杀死，当一头猪被放在老虎的『受训』栏时，场内即上演一幕血腥的表演，老虎只顾咬，只顾抓，却总不晓得如何将猪有效地解决掉。这些老虎在放归大自然后必定不能猎到足够食物。

把生物放回野外作为保育工具，其复杂程度不比人工繁殖低。世界自然保护联盟物种生存委员会重引入专家组特意为这措施编制了一些十分有用的指引 (IUCN/SSC Re-introduction Specialist Group, 1998)，介绍有关概念、策划、可行性及执行方法。该份文件的英文版现可于互联网上浏览，网址是http://iucn.org/themes/ssc/pubs/policy/reinte.htm ，中文版则请联络该专家组的 Technical Project Officer Dr Pritpal S. Soorae，地址：African Wildlife Foundation, P.O. Box 48177, Nairobi, Kenya；电邮：Psoorae@erwda.gov.ae。所以我在这里不会详述该份文件的内容，只会指出落实推行放回野外前应注意的重要事项。至今物种濒危的原因必须清楚，而当那些成因得到解除后，放回野外才有机会成功。尖头叶唇鱼

integrity is another concern. This is particularly the case for very rare species of which only a small number of individuals exists. Any loss during capture or in captivity would be a great blow to the species, not to mention the negative publicity that will be generated. Harmful genetic changes can occur in captivity through founder effects, genetic drift and inbreeding which will reduce the fitness of the progeny and will affect their survival after release (Dobzhansky, 1970; Mallinson, 1995). Artificial selection might also occur so that the captive-bred individuals are adapted to captive conditions rather than to the natural environment. For instance, individuals that can most efficiently utilize the artificial diet given would no doubt be selected in captivity but they may not be able to make full use of the wide range of food available in the wild. Another concern is that disadvantageous behaviour may be picked up, or useful behaviour lost, in captivity. This is especially the case for predatory or social mammals and birds in which some survival skills are acquired through learning rather than genetically inherited. For example, captive-bred tigers in Guilin's Bear and Tiger Centre retain the instinct to hunt but lack the skill to make even an easy kill. When a pig is presented inside the 'training' enclosure, the tigers make a bloody show by biting and mauling the pig but fail to kill it in an effective manner. These tigers would never be able to hunt enough food when released back to the wild.

Translocating individuals back to the wild as a conservation tool is no less complicated than captive breeding. The Re-introduction Specialist Group of IUCN has produced very useful guidelines (IUCN/SSC Re-introduction Specialist Group, 1998) that cover the concepts, design, feasibility and implementation of such projects. The document is now accessible on the web (http://iucn.org/themes/ssc/pubs/policy/reinte. htm) and a Chinese edition is also available (by contacting Dr Pritpal S. Soorae, Technical Project Officer, IUCN/SSC Re-introduction Specialist Group, African Wildlife Foundation, P.O. Box 48177, Nairobi, Kenya; e-mail address Psoorae@erwda.gov.ae). So I will not go into detail here but will merely point out the main issues that must be considered before any such attempts. The reasons a species has become endangered must be understood and the causes reversed for the project to have a reasonable chance of success. The attempt to re-introduce the

(Ptychocheilus lucius) 是一种体积很大的鲤科鱼类，最重可达四十五公斤，由于它们的生境有所改变，加上外来鱼种涌现，该种鱼已消失于科罗拉多河下游的盆地，在该地区重引入尖头叶唇鱼的计划因为没有除去致危原因，即环境改变及外来鱼种，所以成果未如理想 (Jensen, 1995)，这正是推行放回野外计划的首要考虑因素。很多中国濒危物种的主要威胁是生境遭受破坏，而这些威胁仍在发生，如对大熊猫 *(Ailuropoda melanoleuca)* 便没有理由开展放回野外计划。将更多的个体放到野外只会导致当地种群密度异常的高，加剧了竞争，并影响了原本和放回个体的生存机会。把物种或亚种引入其天然分布区以外的地区就更加危险，因为新生境未必能切合该物种在各方面的需要，也带来不同亚种甚至近亲种杂交的风险，像坦桑尼亚非洲紫罗兰的实例 (Simiyu, 1995)。了解物种生命周期的需求、种群基因以及社群结构也是不容忽视的。由于野生生物易受很多疾病侵害，传播疾病的风险也应该正视，例如令一些蛙种灭绝的疾病都是最近才被发现的。最后须强调一点，长期监察是必须的，以确定计划的成败，并确保放回物种的地点完好无缺。不论计划成功与否，其结果也应该与他人分享，好让更多人了解这些较新颖的保育技术，继而作出进一步改善。

人工繁殖和放回野外可以是保护濒危物种的有效方法，特别是那些数目已下降至无法自行维持的情况。可是，它们并不是对所有物种都能万试万灵的良方。由于这两种方法都需要大量资源，所以局限了其应用范围。其实还有很多其他的保育方法－在很多情况下，将资源投放在野生种群的保育往往带来更佳效果。在中国，最近很多注意力都放在人工繁殖濒危物种，作为迁地保育其中一种措施，当中一个危险就是将来的保育工作会偏重于此，而没有足够的资源保护野生种

Colorado Squawfish (*Ptychocheilus lucius,* a very large minnow that can reach 45 kg in weight) to the lower Colorado River basin has been of very limited success probably because the major causes of the species' decline - habitat alteration and the presence of exotic fish - were not removed (Jensen, 1995). This should be the foremost consideration when deciding whether or not to launch a translocation programme. For many Chinese endangered species like the Giant Panda *(Ailuropoda melanoleuca)*, habitat loss/degradation is the main threat and is on-going. In these cases there is little point in releasing more individuals into the wild because this will just create an unnaturally high local population density, intensify competition, and affect the survival prospects of both the existing and the released individuals. Introducing a species or a subspecies into an area outside its natural range is even riskier because the new site may not offer suitable biophysical conditions. It also runs the risk of allowing interbreeding between different subspecies or even closely related species as in the case of Tanzanian African Violets (Simiyu, 1995). An understanding of the species' life history requirements, population genetics and social structure is also important. The risk of disease transmission has to be addressed because wildlife is susceptible to many different kinds of diseases. Some of them, like those that have caused the disappearance of several frog species, have only been discovered recently. Finally, long-term monitoring is required to establish the success or failure of such programmes and to ensure that the release sites remain intact. The results should be published so that other parties can learn more about these relatively new conservation techniques and they will then stand a much better chance of being improved and refined.

Captive-breeding and translocation can be useful tools in conserving endangered species, especially those of which the population has declined to a level that can no longer be self-sustained. However, they are not magic that will work under any circumstances and on all species. Both are very resource demanding, which further limits their applicability. There are other conservation techniques available and in a lot of cases, the resources are better spent on conserving the wild populations. In China, a lot of recent attention has been put into the captive-breeding of endangered species as a kind of *exsitu* conservation. There is a danger that much future conservation effort

群和生境。最初对扬子鳄 *(Alligator sinensis)* 的保育工作正好反映这一点，安徽扬子鳄繁殖研究中心成功以人工方法繁殖了数千只幼鳄 (赵尔宓，1998)。可是，野生扬子鳄的数目却减少至小量的鳄鱼零星分布在差劲的生境里，它们的将来正面临重大威胁 (Thorbjarnarson and Wang, 1999)。为了确保扬子鳄的野生种群能够存活下去，工作人员必须提供或恢复合适的湿地，让人工繁殖的扬子鳄能被放回野外 (Thorbjarnarson and Wang, 1999)。今天大家目睹出奇地丰富的生物多样性，是亿万年来生物不断进化的成果。所以保育计划也要容许物种持续演化 (Allendorf and Leary, 1986)，在这方面，自然界是不可被取代的。

近年推行了不少缜密的人工繁殖和放回野外计划，其中很多都值得参考。如要获得大量这方面的知识，联络世界自然保护联盟物种生存委员会繁育专家组(网址：www.cbsg.org ，电邮：office@cbsg.org)及重引入专家组是最方便不过了。在考虑或制定这些计划前，应先向这两个专

will be directed towards this, leaving not enough on protecting wild populations and habitats. The initial conservation measures for the Chinese Alligator *(Alligator sinensis)* illustrate this. The captive breeding has been very successful and thousands of young alligators have been produced in the Anhui Research Centre of Chinese Alligator Reproduction (Zhao, 1998). However, the wild population has been reduced to a small number of individuals living in fragmented and marginal habitats and its future is at serious risk (Thorbjarnarson and Wang, 1999). To retain a viable wild population, suitable wetlands have to be located or restored where captive-reared alligators can be released (Thorbjarnarson and Wang, 1999). The amazingly rich biological diversity we see today is the result of billions of years of evolution. Therefore conservation programmes have to allow for the future evolution of the species (Allendorf and Leary, 1986) and nature can never be replaced in this regard.

Many rigorous conservation breeding and translocation programmes have been undertaken in recent years and a lot has been learnt. The easy way to tap into this wealth of knowledge is to contact the IUCN SSC Conservation Breeding Specialist Group (website: www.cbsg.org, e-mail: office@cbsg.org) and the Re-introduction Specialist Group (see above). Advice should

番禺孔雀繁殖场内被没收的马来熊及黑熊，刘惠宁摄
Confiscated Sun Bears and Black Bears at Panyu Peacock Farm, by Michael Lau

家组谘询意见，他们亦可以促进保育机构与动物园之间的伙伴合作，以确保有充足的资金、人力、专业知识、技能等重要资源。

这里有两个相关的问题，值得大家探讨。在中国常常会在自然保护区释放被没收的野生动物(Li *et al.,* 1996)，放回野外的考虑也适用于此行径。由于没收动物的健康状况通常都很差，并曾接触各类病菌，因此某些风险如疾病传播亦会增加。再者，我们最担心外来物种入侵保护区。中国对野生动物的需求很大，为满足市场的需求，从亚洲各国进口的野生动物比例亦逐步增加 (Lau *et al.,* 1997; Li and Li, 1997; Lau and Shi, 2000) 。随著不断放生没收的外来物种，它们其中一部份必然能建立起繁殖种群，并可能成为入侵种而带来灾难性的影响。在决定如何处理没收动物时，应该参考世界自然保护联盟安置没收动物指引，当中讨论了各项可行方法的利币(IUCN, 2000)。

现在也有很多合理利用野生动物资源的考虑。由于利润可观，繁殖具高经济价值的濒危物种越来越流行。有时这类型的繁殖场会以保育的名义来掩饰，其实这些只可算是纯商业运作，除非这类繁殖场所供应的动物可取代野生捕捉的或将部分收益用于该物种保育上。要达成前述的要求，这些繁殖场必须在可行的标签制度下运作及在野生动物贸易受控制或遏止的情况下才能实行。而后者，则需要建立完善的系统，如增设环保税项。在中国，我们可以找到很多商业性繁殖的濒危物种的成功例子(如梅花鹿和三线闭壳龟)，但他们对保育该物种的贡献却微不足道。所以，在考虑向这类计划投入珍贵保育资源时，我们必须极为小心。

be sought from these Specialist Groups when any such programme is being considered or planned. They may also facilitate the partnership with conservation organizations and/or zoos so that the necessary resources, such as funding, man-power, expertise and facilities, can be secured.

There are two related issues worth discussing here. It is a common practice in China to release confiscated wildlife into nature reserves (Li *et al.,* 1996). The considerations for translocation also apply to this kind of release. Certain risks, like the transmission of diseases, are even higher because confiscated wildlife is often in poor health and has been exposed to a wide array of pathogens. Moreover, there is a major concern that exotic species will be introduced into these protected areas. The demand for wildlife in China is huge and an increasing proportion of the market is satisfied by imports from other Asian countries (Lau *et al.,* 1997; Li and Li, 1997; Lau and Shi,2000). The continual release of confiscated exotics will inevitably lead to some of them becoming established. They may become invasive and have disastrous impacts. The IUCN Guidelines for Placement of Confiscated Animals discuss the pros and cons of different options (IUCN, 2000) and should be consulted when deciding on how to deal with the confiscated animals.

There are also considerations of the reasonable use of wildlife. The breeding of endangered species for commercial use has gained popularity because of the perceived high profits. Sometimes it is put forward as a conservation tool. Such farming is a purely commercial venture unless the supply from breeding farms will substitute for that from the wild, or unless part of the income generated will go back into conserving that species. The former condition can only be met when a workable certification system is in place and when the trade in individuals harvested from the wild can be controlled or stopped. The latter would require setting up an institutionalised system such as a conservation tax. There are many successful examples of commercial breeding of endangered species in China (e.g. Sika Deer *Cervus nippon* and Three-lined Box Turtle *Cuora trifasciata*) but hardly any has made a significant contribution to the species' conservation. Hence, extreme care must be exercised when considering investment of valuable resources earmarked for conservation in these kinds of project.

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哭泣的森林
The crying forest

黄石林 / 广东车八岭国家级自然保护区
by HUANG Shilin
Chebaling National Nature Reserve, Guangdong
Translated by Rocris Li

车八岭自然保护区，始建于 1981 年 7 月，1988 年 5 月升格为国家级自然保护区，主要保护对象为中亚热带常绿阔叶林及珍稀动植物，是我国综合性自然保护区之一。它位于广东省始兴县东南部、东邻江西省全南县。

这片昔日宁静的原始森林，如今变得越来越不平静了。由于山林权属不清，全南县居民近来不断到保护区大肆砍伐树木，更有愈演愈烈之势。自从保护区建立以来，全南县农民偷伐区内树木的事虽有发生，也只是小打小闹，经过处理，情况基本稳定。然而，随著他们当地的树木砍伐殆尽后，就开始对保护区树木虎视眈眈了。偷砍人次越来越多，最初只有三数人至十几人一起，至 2000 年 6 月 8 日，已发展到三、四十人，带著刀、斧、锯，闯入保护区的程光坑，大肆砍伐。以前只是偶有所闻的盗伐现象，如今变得越来越频繁。

砍伐面积也越来越广，左起于乌梅山，至于饭池嶂的绵延分界线上，都或多或少有盗伐现象，先是在边界上零星地砍，而后逐渐向区内推进，甚至深入到核心区内。至1999年底，粗略估计大约有上百公顷的森林被盗伐。另外，在保护区的程光坑，全南人已经把公路修进了保护区内，他们最初只砍伐大树，现在连胸径只有三、四厘米的幼树也不放过，一起砍下装上车运走。

Chebaling Nature Reserve was established in July 1981 and became a National Nature Reserve in May 1988. It aims to preserve the sub-tropical evergreen broad-leaved forests and rare flora and fauna. It is thus classified as a general nature reserve in China. Chebaling is located at the southeastern part of Shixing County, Guangdong Province, and bordering Quannan County of Jiangxi Province on the eastern side.

The once tranquil primary forest is no longer peaceful. Due to the problems of forest ownership, villagers from Quannan County recently invaded the reserve to log the forest, and the impacts of this have become more and more serious. Since the reserve was established, illegal logging by Quannan villagers occurred occasionally, but was never serious. Usually, the reserve management halted such illegal logging quickly. However, after most of the forests bordering the reserve in Quannan County had been logged, farmers shifted their focus to forests of Chebaling. The sizes of illegal logging groups are growing, from a few to a dozen people at the beginning to a record high of 30 to 40 people on 8 June 2000. They logged the forest in Chengguangkeng with knives, axes, and saws. The once-occasional illegal logging is now a frequent phenomenon in the reserve.

Patches of cleared forest are also becoming larger. Illegal logging sites can be found all along the border from Wumeishan to Fanchizhang. Initially, sites were scattered at the boundary, but gradually, they moved into the nature reserve, sometimes even invading the core area. Over 100 hectares of forest had been logged illegally by the end of 1999, according to very rough estimates. In addition, the farmers from Quannan have extended their logging trails into Chengguangkeng. At first, they only collected large trees. Now, they log trees as small as 3 to 4 cm in diameter and haul them away by trucks.

事实上，保护区人员其实一直努力不懈地尝试遏止这种猖獗的盗伐事件，保护区一方面不断增强护林力量，增加巡逻，依法严惩违法砍树的犯罪分子；另一方面，不断与当地政府联系，商谈共同来制止非法砍伐森林。另外，就保护区边界问题不断与江西各级政府进行磋商，然而，经过2000年6月在赣州及连平的两次调解，边界问题至今没有什么进展，而砍伐保护区林木仍时有发生。

由于在保护区内，同一类型的森林景观、地形、地貌等自然景观不会依行政区域分布，如果要保护好这些自然景观，就不能依行政区域来界定，而应以自然景观的分布范围来界定。所以所涉及到的地区应以大局为重，而不应只顾局部利益，以至损害整体利益。

地球不是我们从祖先那里继承过来的，而是从后代那里借来的。所以保护生态环境是全人类的共同义务，而不仅仅是环境保护工作者的任务；为了给我们子孙、后代留一点绿意，为了保护区不致于成为森林孤岛。保护所涉及到的地区，不应在边界问题上纠缠不清，更不为眼前利益而砍伐周边森林。

自然保护区是现代社会文明的产物，其目的是保护自然资源，维护生态平衡，为当代研究和探索自然演变规律、合理利用自然资源提供模范，为后代保护珍贵的自然资源遗产，为社会经济持续发展服务，为社会繁荣服务。可见其作用是为全社会的，而不是只服务于局部地区，或小部分人。因此，现在的当务之急是放下手中的刀斧，立即停止砍伐天然森林。

The Chebaling Nature Reserve staff has long been working hard to halt these rampant, illegal logging activities. Increasing patrolling frequency and prosecuting illegal loggers have strengthened forest protection. At the same time, continued dialogue with neighbouring governments has been initiated in order to jointly stop illegal logging. In addition, the reserve management is negotiating with different levels of the Jiangxi Government on the problem of the boundary of the reserve. Unfortunately, not much progress was made after two mediation sessions in Ganzhou and Lianping in June 2000. Illegal logging inside the reserve is still happening regularly.

Forest landscapes, topography and landforms do not conform to administrative boundaries in nature reserves. Therefore, in order to protect the natural environment effectively, nature reserves should not be limited by administrative boundaries. The parties concerned should put the greater benefit above their own desires.

The earth is not inherited from our ancestors but borrowed from our children. Protecting the environment is not only the duty of environmentalists, but also the obligation of all people. In order to leave a green earth for our children and not to turn nature reserves into isolated forest islands, the parties concerned should not be hindered by boundary problems and destroy neighbouring forests for short-term benefits.

Nature reserves are products of modern society. They aim to protect natural resources, maintain ecological balance, and provide the template for contemporary field studies on natural succession patterns and sustainable use of natural resources. Reserves protect the precious natural resource heritage for generations to come. They also help to attain sustainable economic development and a prosperous society. It is obvious that nature reserves are beneficial to society as a whole rather than to certain areas and individuals. Therefore, the pressing need is to give up the axes and stop logging natural forests immediately.

深圳市大鹏半岛植物资源考察

Survey of the flora of Dapeng Peninsula, Shenzhen

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大鹏半岛位于广东省深圳经济特区龙岗东南部，介于北纬22°26'-34'，东经114°28'-37'，总面积为107平方千米，该半岛中最大的山脉为七娘山脉，主峰海拔为867米，为深圳市的第二高峰。自1998年以来，我们对当地的植物区系和植物资源进行了为期二年多的野外调查。期间，共采集植物标本3000多号，共计有维管束植物193科、640属、1095种(包括种下单位)；其中蕨类植物有35科、65属、105种；裸子植物有5科、5属、6种；被子植物有153科、570属、984种。从属的地理分布区类型[1]分析得知，泛热带(约占总数的1/3)及热带亚洲成份最多；温带成分亦占有一定的比例(16%)，说明该地处于由热带向南亚热带过渡的地区。

Dapeng Peninsula extends to the southeast of Longgang, Shenzhen Special Economic Zone, Guangdong, from 22°26' to 34'N and 114°28' to 37'E, with a total area of 107 km^2. The highest part of Dapeng Peninsula is the Qiniang mountain range, with the highest peak at 867 m. It is the second highest mountain in Shenzhen. Surveys of the flora were conducted from 1998 over two years, and more than 3,000 specimens were collected. Up to 1,095 taxa of vascular plants, belonging to 193 families and 640 genera, were recorded in Dapeng Peninsula. Of these, 105 species, belonging to 35 families and 65 genera, are pteridophytes; six species, belonging to five families and six genera, are gymnosperms; 984 species, belonging to 153 families and 570 genera, are angiosperms. Analysis of the

位于大鹏半岛的七娘山的次生林。
Secondary forest in Qiniang mountain at Dapeng Peninsula.

该地属南亚热带海洋性季风气候，地带性的植被类型为常绿季雨林。分布在海拔300米以下的山地和村庄附近的「风水林」中。林中主要以樟科、桃金娘科、桑科、大戟科、茜草科、壳斗科、紫金牛科等热带亚热带的成分为主，乔木层的主要成分有：榕树 *Ficus microcarpa* 、假苹婆 *Sterculia lanceolata*、香蒲桃*Syzygium odoratum*、浙江润楠 *Machilus chekiangensis* 、木荷 *Schima superba* 、乌榄 *Canarium pimela* 、五月茶 *Antidesma bunius*等。根据优势种的不同可分为以下四个群落：

1.榕树 + 假苹婆 + 鸭脚木群落
(Comm. *Ficus microcarpa + Sterculia lanceolata+Schefflera octophylla).*
2.香蒲桃群落
(Comm. Syzygium odoratum).
3.浙江润楠 + 木荷群落
(Comm. *Machilus chekiangensis+Schima superba)*
4.乌榄 + 金叶树 + 五月茶群落
(Comm. *Canarium pimela + Chrysophyllum lanceolatum + Antidesma bunius).*

此外，主要的植被类型还有山地常绿阔叶林和沟谷雨林。常绿阔叶林主要分布在七娘山海拔500-850米的山地，乔木层的种类以壳斗科、樟科的种类为主，如栲 *Castanopsis fargesii* 、罗浮栲 *Castanopsis fabri* 、细叶青冈 *Cyclobalanopsis myrsinifolia* 、浙江润楠 *Machilus chekiangensis* 、鸭脚木 *Scheffera octophylla* 等。

沟谷雨林分布在七娘山的一些沟谷地段，主要的植物群落为水同木 + 粗毛野桐 + 假苹婆群落 (Comm. *Ficus fistulosa+Mallotus hookerianus+Sterculia lanceloata*)。群落林下灌木和草本植物有九节 *Psychotria asiatica*、华南省藤 *Calamus rhabdocladus* 、黄藤 *Daemonorops margaritae* 、分叉露兜 *Pandanus furcatus* 、艳山姜*Alpinia zerumbet*和蕨类植物如星蕨*Microsorum punctatum* 、巢蕨 *Neottopteris nidus* 、贴生石韦 *Pyrrosia adnascens* 等。

大鹏半岛各种群落类型保存相对完好，亦保存了许多珍稀植物。调查中我们发现15种国家保护植物[2,3]，其中国家二级保护植物9种包括苏铁

geographical distributions of the plant genera[1] revealed that the pantropical (around one-third) and tropical Asian components are dominant, while the temperate components (16%) are less important. The flora represents a transition from the tropical zone to the south-subtropical zone.

Dapeng Peninsula is characterized by a southern subtropical oceanic monsoon climate. The main zonal vegetation is evergreen monsoon forest which is distributed on hillsides and fung shui woods near villages below 300 m. The most abundant families are those with tropical-subtropical distributions such as Lauraceae, Myrtaceae, Moraceae, Euphorbiaceae, Rutaceae, Fagaceae, and Myrsinaceae. The dominant canopy trees include *Ficus microcarpa, Sterculia lanceolata, Syzygium odoratum, Machilus chekiangensis, Schima superba, Canarium pimela* and *Antidesma bunius.* The common community types based on the composition of dominant species are as follows:

(1) Ficus microcarpa+Sterculia lanceolata+Schefflera octophylla;
(2) Syzygium odoratum;
(3) Machilus chekiangensis+Schima superba;
(4) Canarium pimela+Chrysophyllum lanceolatum+Antidesma bunius.

Broadleaf evergreen montane forest and ravine rainforest are also major vegetation types. The former is distributed on hillsides of Qiniang Mountain between 500 and 850 m. The dominant canopy trees include *Castanopsis fargesii, Castanopsis fabri, Cyclobalanopsis myrsinifolia, Machilus chekiangensis* and *Schefflera octophylla*. The ravine rainforest is distributed in the ravines at Qiniang Mountain, and the commonest community is *Ficus fistulosa+Mallotus hookerianus+Sterculia lanceolata*. The common shrubs and herbs include *Psychotria asiatica, Calamus rhabdocladus, Daemonorops margaritae, Pandanus furcatus, Alpinia zerumbet* and some ferns, such as *Microsorum punctatum, Neottopteris nidus,* and *Pyrrosia adnascens.*

蕨 *Brainea insignis* 、白苞大山茶 *Camellia granthamiana* 、普洱茶 *Camellia sinensis* var. *assamica* 、水蕨 *Ceratopteris thalictroides* 、蚌壳蕨 *Cibotium barometz* 、黑桫椤 *Gymnospharea podophylla* 、粘木 *Ixonanthes chinensis* 、樟树 *Cinnamomum camphora* 、野龙眼 *Dimocarpus longan*。其中，白苞大山茶在七娘山的沟谷中有少量分布，蚌壳蕨和樟树则分布相对较多。国家三级保护植物 6 种，穗花杉 *Amentotaxus argotaenia* 、土沉香 *Aquilaria sinensis* 、舌柱麻 *Archiboehmeria atrata* 、白桂木 *Artocarpus hypargyreus* 、吊皮锥 *Castanopsis kawakamii* 、珊瑚菜 *Glehnia littoralis*。此外，我们还发现原以为只分布在香港、从化和江西的香港杜鹃 *Rhododendron hongkongense* 。

在调查中我们还发现，有一些数量相当又具有重要学术、观赏、经济等价值的植物。如常绿臭椿 *Ailanthus fordii* 、福建观音座莲 *Angiopteris fokiensis* 、心檐天南星 *Arisaema cordatum* 、中华双扇蕨 *Dipteris chinensis* 、香港樫木 *Dysoxylum hongkongensis* 、阔片乌蕨 *Stenoloma biflorum* 、松叶蕨 *Psilotum nudum* 、多花蓬莱葛 *Gardneria multiflora*、香港杜鹃 *Rhododendron hongkongense* 等都属较为少见的植物，具有重要的科研价值；罗汉松 *Podocarpus macrophyllus* var. *maki* 、广东木瓜红 *Rehderodendron kwangtungense* 等为优良的观赏植物，特别是罗汉松因被广泛用于园林观赏，该地一些野生的植株被盗挖，数量已相当稀少；七娘山自然分布有多种兰花，其中稀少的种类有墨兰 *Cymbidium sinense* 、云叶兰 *Nephelaphyllum tenuiflorum* 、紫纹兜兰 *Paphiopedilum purpuratum* 、寄树兰 *Robiquetia succisa* 、仙茅竹茎兰 *Tropidia curculigoides* 等，兰科植物较多为珍稀濒危植物，此科植物全属于《野生动植物濒危物种国际贸易公约》的监管范围[4]。目前这些种类尚未列入国家及省级珍稀濒危植物保护名单中，希望当地政府对其加以保护。

鸣 谢

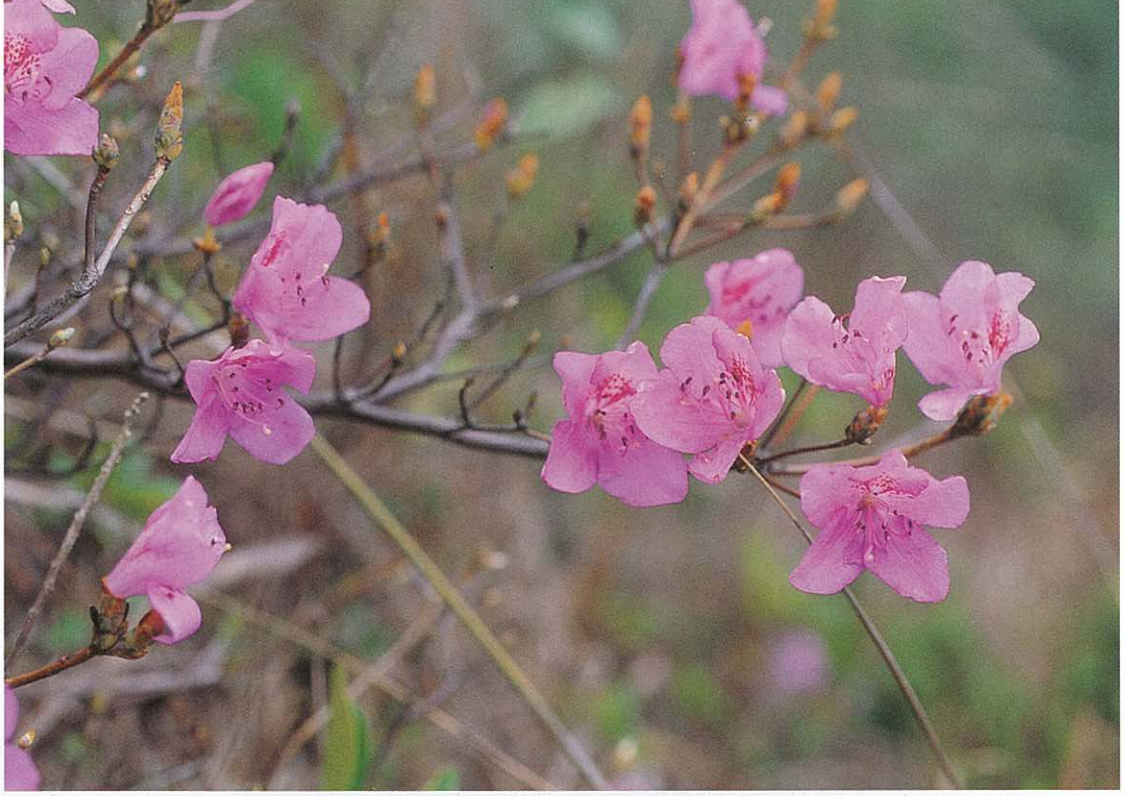
此项目部份由嘉道理农场暨植物园资助。

Plant communities at Dapeng Penninsula are well preserved, and there are many rare and endangered plants. In our survey we found 15 rare and endangered plant species of which nine species are under Category II national protection[2,3]. They are *Brainea insignis, Camellia granthamiana, Camellia sinensis* var. *assamica, Ceratopteris thalictroides, Cibotium barometz, Gymnosphaera podophylla, Ixonanthes chinensis, Cinnamomum camphora* and *Dimocarpus longan*. Among these, Camellia granthamiana was encountered as only a small population in a ravine at Qiniang Mountain, whereas *Cibotium barometz* and *Cinnamomum camphora* were relatively common. Six species are under Category III national protection[2,3], namely *Amentotaxus argotaenia, Aquilaria sinensis, Archiboehmeria atrata, Artocarpus hypargyreus, Castanopsis kawakamii* and *Glehnia littoralis*. *Rhododendron hongkongense*, which was previously believed to be distributed only in Hong Kong, Conghua (Guangdong) and Jiangxi Province, was also found on Qiniang Mountain.

Some plants of great scientific, ornamental and economic value were found during our survey. For instance, *Ailanthus fordii, Angiopteris fokiensis, Arisaema cordatum, Dipteris chinensis, Dysoxylum hongkongensis, Stenoloma biflorum, Gardneria multiflora, Psilotum nudum* and *Rhododendron hongkongense* are locally rare and of great scientific value. *Podocarpus macrophyllus* var. *maki* and *Rehderodendron kwangtungense* are popular ornamental and landscaping plants. The wild populations of the former have been severely depleted by illegal collection. There are many kinds of orchids at Qiniang Mountain, of which *Cymbidium sinenses, Nephelaphyllum tenuiflorum, Paphiopedilum purpuratum, Robiquetia succisa* and *Tropidia curculigoides* are very rare. Many orchids are endangered species all of which are listed in CITES Appendix II[4]. Because the above species are not yet protected by law at the national or provincial level, we suggest they should be legally protected by the local government.

Acknowledgement

This survey is partly sponsored by Kadoorie Farm & Botanic Garden.



华丽杜鹃
Rhododendron farrerae

七娘山森林植被保存较好，原生性较强，植物资源相当丰富，我们建议当地政府在此建立国家公园，对该地的植物资源进行保护。

The forest in Qiniang Mountain is mainly primary and well preserved with a very rich flora. We suggest the local government should establish a national forest park to protect these resources.

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香港杜鹃
Rhododendron hongkongense

二零零一年在广东、广西和海南记录到在全球或中国受威胁的生物

Records of Globally and Nationally Threatened Wildlife in Guangdong, Guangxi and Hainan, 2001

以下是 2001 年嘉道理农场暨植物园考察队专家在本项目的野外调查所作的纪录。
The following records were made by specialist team members during KFBG surveys in 2001.

国际濒危等级是以世界自然保护联盟提供的濒危物种红色名录为准；国家濒危等级是以中国的濒危物种红皮书为准。
Global status is based on IUCN Red list of Threatened Animals and Plants; national status is based on respective Red Data Books.

注释 Key: CR = 极危 Critically Endangered; EN = 濒危 Endangered; VU = 易危 Vulnerable; NT(LR) = 接近受危 Near-threatened (Lower Risk); R = 稀有 Rare.

植物 Plants

穗花杉 *Amentotaxus argotaenia* (Hance) Pilg. (全球：易危) 五月十七日，于广东深圳梧桐山海拔750m 见到一棵，小乔木约 2 米高。

Amentotaxus argotaenia (Hance) Pilg. (Global: VU) One plant at Wutongshan (750 m), Shenzhen, Guangdong, on 17 May. A small tree about 2 m tall.

马蹄参 *Diplopanax stachyanthus* Hand.-Mazz. (全球：易危) 九月三十日于广西金秀县大瑶山保护区圣堂山，海拔约1600米见到2棵植株。乔木约10至15米高，胸径达30厘米。树上有未成熟果实。十二月十日于广西上思县十万大山鸡公岭，海拔约 1100 米见到约 10 棵植株的种群。乔木约 10 至15米高，胸径达20厘米。地上有掉下来的果实。

Diplopanax stachyanthus Hand.-Mazz. (Global: VU) On 30 September, two trees at Shengtangshan, Dayaoshan NR, Jinxiu county, Guangxi. Trees about 10 to 15 m tall, up to 30 cm dbh. With unripe fruits. On 10 December, a population with about 10 plants at Jigongling (1100 m), Shangsi county, Shiwandashan, Guangxi. Trees about 10 to 15 m tall, up to 30 cm dbh. With fallen fruits on ground.

伯乐树 *Bretschneidera sinensis* Hemsl. (全球: 濒危) 九月二十九日及三十日于广西金秀县大瑶山保护区土宪海拔约1100米及圣堂山约1400米分别见到一棵植株。乔木约15米高，胸径约30厘米。树上有成熟之果实。

Bretschneidera sinensis Hemsl. (Global: EN) On 29 September, one tree was seen at Tuxian (1,100 m) and another one at Shengtangshan (1400 m), Dayaoshan NR, Jinxiu County, Guangxi. About 15 m tall, 30 cm dbh. With ripe fruits.

狭叶坡垒 *Hopea chinensis* Hand.-Mazz. (全球：极危) 十二月八日于广西上思县十万大山松柏，海拔约330 公尺见到约 5 棵植株的种群。乔木约 10 公尺高，胸径约20公分。十二月十二日于十万大山森林公园约250至400公尺见到约5棵植株的种群。乔木约20公尺高，胸径达60公分。十二月十四日于上思县汪乐约 500 公尺见到约 10 棵植株的种群。乔木约 10 至 15 公尺高，胸径达 20 公分。三个种群的苗木皆普遍。

Hopea chinensis Hand.-Mazz. (Global: CR) On 8 December, one population with 5 trees at Songbo (330 m), Shiwandashan, Shangsi County, Guangxi. Trees about 10 m tall, 20 cm dbh. On 12 December, one population with 20 trees at Shiwandashan Forest Park (250-400 m). Trees about 20 m tall, up to 60 cm dbh. On 14 December, one population with about 10 trees at Wangle (500 m), Shangsi County. Trees about 10-15 m tall, up to 20 cm dbh. Saplings abundant in all three populations.

坡垒 *Hopea hainanensis* Merr. et Chun (全球：极危) 八月五日于海南乐东县尖峰岭核心区路上海拔约750米见到一棵，乔木约15米高，胸径约20厘米，开花。

Hopea hainanensis Merr. et Chun (Global: CR) One tree by road in core area of Jiangfengling (750 m), Ledong County, Hainan on 5 August. A tall tree about 15 m tall, 20 cm dbh, flowering.

吊皮椎 *Castanopsis kawakamii* Hayata (全球：接近受危) 四月十七日，于广东怀集县大稠顶海拔约400-600米见到一群落，有50棵以上，乔木达20米高，胸径达40厘米。

Castanopsis kawakamii Hayata (Global: LR/nt) A population with more than 50 trees was recorded at Dachouding (400-600 m), Huaiji County, Guangdong on 17 April. Tall tree up to 20 m tall, 40 cm dbh.

白桂木 *Artocarpus hypargyreus* Hance ex Benth. (全球：易危) 四月十七日，于广东怀集县大稠顶海拔约300米的村边，见到一棵，乔木约3米高，胸径约15厘米。

Artocarpus hypargyreus Hance ex Benth. (Global: VU) A single tree at Dachouding (300 m), Huaiji County, Guangdong on 17 April. Next to village. Tree about 3 m tall, 15 cm dbh.

海南紫荆木 *Madhuca hainanensis* Chun & F.C. How (全球：易危) 八月五日于海南乐东县尖峰岭核心区路上海拔约750至900米见到一种群，有50棵以上，乔木达30米高，胸径达40厘米。

Madhuca hainanensis Chun & F.C. How (Global: VU) A population with more than 50 trees was seen in the core area of Jiangfengling (750-900m), Ledong County, Hainan on 5 August. Tall trees up to 30 m tall, 40 cm dbh.

紫荆木 *Madhuca pasquieri* (Dubard) H.J. Lam (全球：易危) 十二月八日于广西上思县十万大山松柏，海拔约330至420米，及十二日于十万大山森林公园海拔约250至600米分别见到20棵植株以上的种群。乔木达20米高，胸径达30厘米，苗木普遍。

Madhuca pasquieri (Dubard) H.J. Lam (Global: VU) Two populations in Shangsi County, Guangxi, at Shiwandashan Forest Park (250-600 m) on 12 December, and Songbo (330-420 m), Shiwandashan NR on 8 December. Each population with more than 20 plants. Tall trees up to 20 m, 30 cm dbh. Saplings abundant.

蝴蝶树 *Heritiera parvifolia* Merr. (全球：易危) 八月三日，于海南琼中县五指山登山路上海拔约900米见到一棵，乔木约20米高，胸径约40厘米，有果实。

Heritiera parvifolia Merr. (Global: VU) One tree at Wuzhishan (900 m), Qiongzhong County, Hainan on 3 August. A tall tree about 20 m tall, 40 cm dbh, fruiting.

拟隔距兰 *Cleisostomopsis eberhardtii* (Finet) Seidenf. (中国新记录属)六月四日，在广西靖西县龙邦发现了四丛，经中国兰科植物专家陈心启教授确认为中国新记录属，于中国稀有。

Cleisostomopsis eberhardtii (Finet) Seidenf. (New to China) Four clumps were found at Longban, Jingxi County, Guangxi on 4 June. This genus has been confirmed as new to China by orchidologist, Prof. S.C. Chen. It is rare in China.

美柱兰 *Callostylis rigida* Bl. (中国：稀有)六月七日，在广西那坡县弄化发现了三丛。这是广西的新记录属。

Callostylis rigida Bl. (China: R) Three clumps were found in Nonghua, Napo County, Guangxi on 7 June. This is a new genus record for Guangxi.

湿唇兰 *Hygrochilus parishii* (Rchb. f.) Pfitz. (中国：稀有)六月四日，在广西靖西县龙邦发现了三丛。这是广西的新记录属。

Hygrochilus parishii (Rchb. f.) Pfitz. (China: R) Three clumps were found in Longban, Jingxi County, Guangxi on 4 June. This is a new genus record for Guangxi.

南方虾脊兰 *Calanthe lyroglossa* Rchb. F. (中国：稀有)十二月十日，在广西南屏乡太平寨十万大山保护区发现了约七十丛。这是广西的新记录属。

Calanthe lyroglossa Rchb. f. (China: R) About 70 clumps were found in Taipingzhai, Nanpingxiang, Shiwandashan Nature Reserve, Guangxi on 10 December. This is a new species record for Guangxi.

哺乳类 Mammals

海南兔 *Lepus hainanus* (全球：易危；中国：易危) 八月五和六日，在海南大田保护区见到约超过 40 只。

Hainan Hare *Lepus hainanus* (Global: VU ; China: VU) About 40 were recorded at Datian Nature Reserve, Hainan. On 5-6 August.

海南坡鹿 *Cervus eldi hainanus* (全球：易危；中国：濒危) 八月五和六日，在海南大田保护区的圈养区外见到约 20 只。

Eld's Deer *Cervus eldi hainanus* (Global: VU ; China: VU) About 20 were recorded outside the captive pen at Datian Nature Reserve, Hainan. On 5-6 August.

鸟类 Birds

海南鳽 *Gorsachius magnificus* (全球：濒危；中国：濒危) 七月二十一至二十二日的傍晚，在广东车八岭保护区海拔 500 米，每晚见到一只。

White-eared Night Heron *Gorsachius magnificus* (Global: EN; China: EN) One was seen each evening, on 21-22 July, at 500 m, Chebaling NR, Guangdong.

海南山鹧鸪 *Arborophila ardens* (全球：濒危；中国：濒危)在海南尖峰岭保护区海拔900-1100米，分别于二月十五日至二十一日见到和听到十一只，及于八月五日见到和听到五只。

Hainan Partridge *Arborophila ardens* (Global: EN; China: EN) Eleven were heard and seen on 15-21 February and five on 5 August, at 900-1,100m, Jianfengling NR, Hainan.

红头咬鹃 *Harpactes erythrocephalus* (中国：易危) 在海南尖峰岭保护区海拔 900-1100 米，分别于二月十五至二十一日见到八只，及于八月五日见到六只。

Red-headed Trogon *Harpactes erythrocephalus* (China: VU) Eight and six were seen on 15-21 February and 5 August at 900-1,100m, Jianfengling NR, Hainan.

海南柳莺 *Phylloscopus hainanus* (全球：易危) 在海南尖峰岭保护区海拔 900-1100 米，分别于二月十五至二十一日见到四十只，及于八月五日见到二十只 。

Hainan Leaf Warbler *Phylloscopus hainanus* (Global: VU) Forty and 20 were seen on 15-21 February and 5 August at Jianfengling NR, 900-1,100m, Hainan.

白翅蓝鹊 *Urocissa whiteheadi* (全球：接近受危) 十二月十三日，在广西十万大山保护区海拔 300 米，见到六只。

White-winged Magpie *Urocissa whiteheadi* (Global: NT) Six were seen on 13 December at Shiwandashan NR, 300 m, Guangxi.

爬行类 Reptiles

地龟 *Geoemyda spengleri* (全球：濒危；中国：濒危) 四月二十三日，在广东三岳保护区海拔 700 米，见到一只。

Black-breasted Leaf Turtle *Geoemyda spengleri* (Global: EN; China: EN) One, Sanyue NR, at 700 m, Guangdong, 23 April.

两栖类 Amphibians

棘胸蛙 *Rana spinosa* (中国：易危) 四月十八日，在广东大稠顶保护区，见到几只。

Spiny-breasted Frog *Rana spinosa* (China: VU) Several were seen at Dachaoding NR, Guangdong, 18 April.

珍惜现在 保育将来
Tinkering for tomorrow

费乐思 / 香港嘉道理农场暨植物园
由 林芷薇 译

by John FELLOWES
Kadoorie Farm and Botanic Garden

美国生态保育学家奥尔多·利奥波德(Aldo Leopold)在四十年代写下了一诀理性保育法则－‘要明智地修补东西，首要法则便是要保存所有零件’。他是将天然资源管理比作胡乱修整残旧的单车或是收音机。虽然你或许希望能改善它们的性能，可是，一旦遗失了某些零件，你就无法重新装勘它们，不论在结构和功能方面也不可能再使之回复原貌。即使你能获得短暂的成效，早晚你也会发现某些部份出了岔子。

以上的简单哲学其实是全球保育学家的行事方针，实际上，这亦是生物多样性公约的基础。这「首要法则」的含义显而易见，特别是被认为是动植物最终避难所的保护区。砍伐、狩猎、捕鱼、畜牧以及过度采集天然资源等人为活动，正危害到野生动植物的生存、使它们步向灭绝。我们他朝定必要付出沉重的代价以赎回今天对自然资源不合理的利用。

那么，其他的明智保育法则又是什么呢？

中国传统智慧博大精深，擅于利用大地资源。于我而言，这些都体现在红树蚁*Oecophylla*属的故事上。这种富侵略性的蚂蚁遍布在古热带地域里，爱在树上捕食昆虫。在一千七百多年前，一位华南人(大概是所称的南蛮)觉察到这个现象，在做了少许实验以后，他便发明了生物防治的方法。不久之后，农民便例行地用竹竿串连橘树的树冠，把蜡涂在树干上面，使蚂蚁留在树上；农民更想出办法，把蜂巢或藏著蚁群的猪或羊膀胱移动，达到控制害虫的目的。虫害的问题因此而大大减轻，而

"The first rule of intelligent tinkering," wrote Aldo Leopold in the 1940s, "is to keep all the pieces." He was likening natural resource management to fiddling with a faltering bicycle or wireless: you might hope to get better use out of them, but lose some of the parts and you will never re-create the whole, in structure or in function. Even if you meet with short-term success, you are liable to discover, sooner or later, that something is awry.

This simple philosophy underlies the work of conservationists everywhere, and indeed the Convention on Biological Diversity itself. The implications of this "first rule" are obvious: particularly in nature reserves, the last refuges of many animal and plant species, such activities as logging, hunting, fishing, over-collecting and grazing that endanger their survival are out of place. What we lose today, we will pay for tomorrow.

But what are the other rules of intelligent tinkering?

China has an immense wealth of inherited wisdom about utilising resources. To me this is embodied in the story of the Red Tree Ants of the genus *Oecophylla*. These aggressive ants occur throughout the Old World tropics, where they forage on trees, catching and eating insects. Some 1,700 or more years ago an observant *Huananren* (presumably a *Nan Yueh* or "southern barbarian") noticed this, did a little experimenting... and invented biological control. Before long, farmers were routinely connecting up their citrus canopies with bamboo poles, waxing the

农民所需做的是防范被红树蚁所叮（无容置疑，农民普遍都喜欢农历年收成期的寒冷天气，因为蚂蚁在冬天时都不活跃了，被咬机会大大减低）。

随著现代社会中生活模式的改变，我们亦减少了与大自然作亲密接触的机会。受城市化的影响，使他们走向工业化：农地面积扩大、运用机械化收割和使用化学物品。在我们定神考虑各项生态细节之前，我们已迳自「改善」环境了。即使是以农立国、长期依赖人力生产的中国也绝不例外，追随大势，渐趋工业化了。然而，当其他国家正开始透过恢复受破坏的生态系统来解决环境问题时，中国却乐观地提出「生态建设」，即创造新颖的人工「生态系统」。虽然我们并未完全了解这些新生态系统如何受大自然影响，却仍期望它们能发挥理想的功效。生态建设的概念并非建基于理解及尊重天然、繁复生态系统，而是简化流程，著眼点在于快速而短期的效果。那么，在这个基因技术一日千里、一切由电脑主宰的新世代中，究竟由谁来观察自然生态的变迁呢？

犹幸自然历史的时代还未过去。在以往几年间，我曾到访华南各区，接触到不同的人士，有科学家、保护区管理员和当地村民等。作为生活于郊区的一员，当地人民给我留下深刻的印象，他们对野生动植物那份尊重和知识，使我振奋非常。或许，只有居于市区的人们因为终日与大自然隔绝，会失却了那份对生物应有的尊重。与此同时，在以科研支援前线人员这层面上，我却感到大失所望。我发现这里缺乏一批对各类生物及自然生态了如指掌的专业人士。除此之外，我们亦缺乏一个有条不紊的科研资讯网络，让保护区的管理人员能善用我们有限的专业知识。

再举另一个与蚂蚁有关的例子。在九十年代，荔枝椿象在嘉道理农场暨植物园的果园内肆虐。纵使我们尝过不同法子，却总没法把它们赶尽杀绝。后来我们才发现原因，原来近年间从非洲入侵的长脚蚁*(Anoplolepis gracilipes)*

trunks to keep the ants up there, and moving colonies around the orchards in their leaf nests, or in pig or goat bladders. Pest problems were greatly relieved: all the farmers had to do was avoid being chomped by those little red jaws (they doubtless appreciated the cool weather around the Chinese New Year harvest time, that brings ants to a standstill).

In modern times, we have become accustomed to less subtle dealings with nature. Governed from the cities, we move towards industrialisation: bigger fields, mechanised harvests, chemical treatments. Before stopping to consider the ecological fine points, we impose "improvement". China, for all its reliance on rural manual labour, is no exception to the trend. Indeed, while other countries begin to address their environmental problems through restoration of damaged ecosystems, China talks optimistically of "Ecological Construction" - the creation of new artificial "ecosystems", expected to somehow perform desired functions before we have even understood how these are influenced in nature. The approach is based not on understanding and respect for the complexity of natural processes, but on simplification to enable rapid short-term results. Who needs to observe nature, in an age of new genetic techniques and computer models?

Happily the age of natural history is not over. Over the past few years, I have travelled around South China, and come into contact with a variety of people: scientists, reserve managers, villagers. As a creature of the suburbs, I've been impressed and inspired by the knowledge and respect for plants and animals that widely exists. Perhaps, after all, only those of us in the big cities, detached from natural systems, have lost this respect. At the same time, I've been disappointed by the effectiveness of science in supporting those on the frontline. We lack an adequate body of specialists with knowledge of species and their interactions in natural systems. We also lack a systematic information network to enable resource

已占领了整个荔枝园，并为了换取椿象分泌的蜜露，而照顾及保护这些椿象，当我们以自己的方法管理这系统时，这些蚂蚁已在另一层面同时支配了整个果园。某些本地蚂蚁原本可能亦以荔枝椿象为捕食对象，但却遭外来入侵的蚁种排挤；由于我们未有处理这个生态失衡的问题，在防治上所花的心血都给白费了。事实上，有多少个农民会注意到这种情况并上报类似的生态变化呢？生物科技对于防止和探测上述情况的用处何在？打从一千七百年多前那位目光锐利的华南人开始，凭藉科技多年进步，我们还要走多远的路才能有智慧地管理资源呢？

要理智地管理资源，我们先要采取最基本的一步，就是确保各类生物，不论是在陆地上走动的龟只或高雅的兰花，以至在水中畅泳的鱼类甚或在泥土中的微生物，都可在健康的自然生态系统中生存。生物多样性可给予我们有关生命的启示，更可保障我们的下一代还有明天。同时，我们需要足够的生态专家去搜集资料，并向农民和林务人员灌输有关知识，使他们不断从工作中学习，互相交流保育心得。为此，我们每人皆可献出自己的一分力量，撰写明智的保育手则。

managers to make use of our limited specialist knowledge.

Take another ant example. At Kadoorie Farm & Botanic Garden, the lychee bugs that troubled our orchards during the 1990s were tackled by various means, but they kept coming back. It turns out they are tended and protected by the Red Crazy Ant *Anoplolepis gracilipes,* in exchange for honeydew secreted by the bugs. This species, a recent invader from Africa, has overrun the lychee orchard; while we were managing the system at one level, the ants were running it at the smaller scale. Native ants, some of which might have preyed on the bugs, were excluded by the aliens, and without addressing this ecological imbalance, our control efforts were in vain. But how many forest farmers would have noticed and reported these ecological changes? And what use would biotechnology have been in preventing or detecting them? For all our technological advances, how far have we progressed towards intelligent resource management since the days of our sharp-eyed *Huananren*, 1,700 years ago?

To manage resources sensibly we need first to take the most basic step: ensuring that our biological diversity, whether it is turtles or orchids, fish or soil microbes, survives in healthy natural ecosystems. This diversity is our inspiration and our life insurance. At the same time, we need adequate specialist ecological expertise, the capacity to acquire and direct knowledge to farmers and foresters - and the involvement of farmers and foresters in the learning process. We can all help write the intelligent tinkering rulebook.

《中国鸟类野外手册》评介

该书由约翰·马敬能、卡伦·菲利普斯、何芬奇 著，海南教育出版社

杨岚 / 中国科学院 昆明动物研究所 650223

约翰·马敬能、卡伦·菲利普斯、何芬奇等所著《中国鸟类野外手册》(中文版) 是一本很好的识别中国野生鸟类的工具书。全书记录分布于中国的鸟类1329种，是目前记录中国分布的野生鸟类种数最多的一本书。郑作新 (1987)《中国鸟类区系纲要》记录中国鸟类1186种；郑作新 (2000)《中国鸟类种和亚种分类名录大全》记录中国鸟类1253种；颜重威等 (1996)《中国野鸟图鉴》记录中国鸟类1253种。均未超过本书的记录。

本书所记录鸟种的地理分布区域，包括中国地图上的所有陆地与海域。所以，从地域而言也是最为全面的一本书。

书中所记录的1329种鸟类都绘制有彩色形态特徵图和地理分布区域及其居留情况标示图。共编入彩色图版128幅。每一种鸟都描绘了雄鸟、雌鸟、亚成体和幼鸟以及冬羽和繁殖羽之间的鉴别特徵。形态和色彩的描绘较为准确、自然、栩栩如生。如此精美细致、融科学性与艺术性为一体的鸟类彩色图鉴及其印制质量足以与当今国际上同类图书相媲美。

全书为32开本，图版与文版分排，图版在前计256页，文字在后为571页。文字的第1部份为引论：含著者引言、中国地理简介、中国鸟类地理、野外观鸟技巧、鸟类羽区图示、名词和术语解释；第2部份是分种记述：包括目、科的中文名、拉丁名和俗称；科名下有该科鸟类的形态特徵，地理分布及所含种数的简述；种的记述有中文名、英文名、拉丁名、中文名的汉语拼音、图版序号、种的形态特徵、鸣叫声、世界分布范围、国内分布状况和习性等的简要记述。对某种类在分类问题上的不同意见，则用加注方式予以说明。第3部份为附录：

(1) 中国濒危和受保护鸟类名录；

(2) 中国特有鸟区 (EBA) 的特有和有限分布物种名录；

(3) 推测或已被证实但未列入本书的见于南沙群鸟的鸟种；

(4) 鸟类协会和学会一览表；

(5) 参考文献。

第4部份分为拉丁名、英文名和中文名索引。编写规范，行文流畅简洁。全书共计84万字。中文版由中国湖南教育出版社出版，英文版由英国牛津大学出版社出版。

本书适合作为野外观察识别鸟类物种必备工具书，对于广大的观鸟旅游爱好者，自然保护区进行鸟类资源状况的监测管理人员以及从事鸟类分类、区系、生态生物多样性保护的科研和教学工作者将会有很大的帮助，特此予以推荐。

值得指出的是，本手册[1]所采用的分类系统与目前国内普遍采用的著名鸟类学家郑作新教授所理定的中国鸟类名录的分类系统有很大的差别。这对我国鸟类的分类与系统进化研究及其编目，提出了新的课题。但是为了保持我国鸟类分类研究的系统性和延续性，我们建议在写作中国动物志鸟纲各卷和地区性鸟类志的工作中，最好仍然采用郑作新教授所厘定的中国鸟类名录分类系统。

[1] *编者按：马敬能等的分类系统是根据C.G. Sibley及B.L.Monroe, Jr.于1990年所编著的《世界鸟类的分布及分类》的内容，该书由耶鲁大学出版。他们的工作是从DNA杂交的研究来重新评估科与属的关系。因此，他们的结果，有部份是有别于那些在中国及其他地方，只依靠形态而分析得出的早期研究结果。*

A Field Guide to the Birds of China

John MacKinnon, Karen Phillipps and He Fen-qi Hunan Education Publishing Ltd., China

Reviewed by YANG Lan Kunming Institute of Zoology, Chinese Academy of Science 650223
Translated by Vera POON

A Field Guide to the Birds of China (Chinese version) is a very good reference book for identifying the wild birds of China. It records 1,329 bird species from the country, a total higher than that in any previous books. *A Synopsis of the Avifauna of China,* written by Cheng Tso-hsin (1987) recorded 1, 186 species; *A Complete Checklist of Species and Subspecies of the Chinese Birds*, compiled by Cheng Tso-hsin (2000), recorded 1,253; *Field Guide to the Birds of China*, compiled by Yan Chong-wei *et al.* (1996), also recorded 1,253 species. The range encompasses all terrestrial and aquatic boundaries of China, making this book the most comprehensive yet in terms of geographical coverage.

For each of the 1,329 birds, the entry includes a coloured illustration of major physical features, geographical distribution range and migrant/resident status. There are 128 colour plates. Most bird species is illustrated with a portrait of male, female, sub-adult and juvenile, together with distinguishing features between non-breeding and breeding plumage. Those with subspecies have illustrations for these too. Portraits of appearance and coloration are accurate, natural and vivid. Such a detailed and colourful field guide to birds, blending science and art with high printing quality, can match similar guidebooks on an international level.

The book is A5 in size, and illustrations and text are separate, with 256 pages of illustrations followed by 571 pages of text. In the text section, there are four parts. The first introduces the authors, the geography of China, the geographical distribution of birds in China, some tips for in bird-watching in the field, illustrations of plumage, and a glossary of phrases and technical terms. The second part is the species accounts, including Chinese, scientific and English names of the orders and families. Under each family heading are descriptions of general features, geographical distribution and the number of species listed. Species descriptions include Chinese, English, scientific and pinyin names, the number of the respective illustration, physical features, vocalisations, global and national distribution and habits. In cases where there are diverging taxonomic opinions on a certain bird, explanatory notes are added. The third part is appendices, listing:

(1) endangered and protected species of birds in China;
(2) endemic and restricted species of China's Endemic Bird Areas (EBA);
(3) expected and known birds of the Nansha Islands that are not described in the book; and
(4) clubs and societies for birds.

Finally there are references, and an index of scientific, English and Chinese names. The text is both pleasant and lucid. There are 840,000 words in total. The Chinese version is published by Hunan Education Publishing Ltd., and the English version by Oxford University Press.

This book deserves to become an essential reference for identifying bird species in the wild. If offers much aid to general bird-watchers, nature reserve staff, scientists and educators involved in studies of bird taxonomy, community ecology and biodiversity conservation. I am honoured to recommend it.

It should be pointed out that the taxonomic system adopted in this book[1] differs from that formulated by China's renowned avian specialist Prof. Cheng Tso-hsin, which is generally adopted throughout China. Undoubtedly such a difference will raise new discussion for taxonomic and evolutionary research and the classification of birds in China. However, we suggest the taxonomic system of Prof. Cheng should continue to be adopted when compiling the avian volumes of the *Fauna Sinica* and other regional *Aves Ngiana*, so as to maintain consistency and continuity in taxonomic studies of birds in China.

[1] Editors' note: MacKinnon et al. follow C.G. Sibley and B.L. Monroe, Jr., 1990 (*Distribution and Taxonomy of Birds of the World. Yale University Press*). This work reassessed the relationships of genera and families based on studies of DNA-hybridisation. Some of the results differed from those of earlier assessments, in China and elsewhere, based on morphology alone.

家国事 National

中国现时有1,276个自然保护区，总面积达一百二十三万平方公里。国家林业局指出，2010年国家将有1,800个自然保护区，总面积达一百五十五万平方公里，到2050年保护区将增至2,500个，总面积将达一百七十八万平方公里。

China currently has 1,276 nature reserves, covering 1.23 million km^2. According to the State Forestry Administration, by 2010 there will be 1,800 reserves covering 1.55 million km^2, and by 2050 there will be 2,500 covering 1.78 million km^2.

(中国日报 China Daily 22.12.2001)

中国林科院院长江泽慧宣布国家树林复盖率将于2010年由原来的16.5%上升至19.4%。北京地区的树林复盖率将由6.7%上升至21.4%。

Chinese Academy of Forestry president Jiang Zehui announced tree cover will increase from 16.5% to 19.4% by 2010. Tree cover in the Beijing area will increase from 6.7% to 21.4%.

(中国日报 China Daily 13.12.2001)

来自中国野生动物保护协会(CWCA)组织的专家调查显示，中国年食用活蛇1万吨以上，其中不包括用于中药的部份。白头蝰 *(Azemiops feae)* 和眼镜蛇 *(Ophiophagus hannah)* 等物种更可能面临灭顶之灾。该协会呼吁修改野生动物保护法律法规，因为该法规现时只保护蟒蛇 *(Python molurus)*。又建议把那些数量稀少或种群数量急剧下降、我国特有的或分布十分狭窄的蛇类列到名录中。秘书长王福兴一再告诫人们，蛇肉的营养价值绝不像商家鼓吹的那样神奇。

A China Wildlife Conservation Association (CWCA) survey found over 10,000 tons of snakes are eaten each year in China, not including parts used in traditional Chinese medicine. Species such as Fea's Pit Viper *(Azemiops feae)* and King Cobra *(Ophiophagus hannah)* may face extinction. CWCA urged revision of outdated wildlife legislation, which protects only Rock Python *(Python molurus)*. It is proposed to include snake species with narrow distributions and with small or drastically declining populations on the protected list. CWCA general secretary Wang Fuxing also warned against believing the misleading health claims made by snake traders.

(人民网 People's Daily 6.12.2001; 中国日报 China Daily 6.12.2001)

我国再有4个自然保护区被联合国教育科学文化组织认定为世界生物圈保护区，包括甘肃白水江、云南高黎贡山、四川黄龙和河南内乡宝天曼。

The United Nations Education, Scientific & Cultural Organisation has awarded World Biosphere status to another four Chinese nature reserves: Baishuijiang in Gansu, Gaoligongshan in Yunnan, Huanglong in Sichuan and Baotianman in Henan.

(中国日报 China Daily 6.12.2001)

虽然中国在过去十年来在环保方面已踏出一大步，但世界银行仍促请中国改变其环保方针，把注意力放在防患未然方面，从而使当地环保事业更上一层楼。

The World Bank has called on China to make further progress on environmental protection. While applauding past achievements, the Bank urged a change of approach to focus more on prevention of problems rather than cure.

(南华日报 SCMP 2.8.2001)

我国奚志农荣获英国「BG 野生动物摄影年赛」2001年杰若德·杜瑞尔奖项。被他摄入影头的是野生滇金丝猴和藏羚羊，他亦于2000年成立「绿色高原」这个民间环保组织。

China's Xi Zhinong won the 2001 Gerald Durrell Award in the BG Wildlife Photographer of the Year competition. Xi has photographed Yunnan Snub-nosed Monkeys and Chiru in the wild, and formed the Green Plateau Institute in 2000.

(中国日报 China Daily 7.11.2001)

广东、广西、海南及香港
GUANGDONG, GUANGXI, HAINAN & HONG KONG

广东将于2001至2005年间种植超过八十平方公里的红树林，分布于广州、深圳、珠海、汕头、阳江、茂名、江门和湛江。现时广东红树林的总面积是九十平方公里。

Guangdong will plant over 80 km^2 of mangroves in 2001-2005, in Guangzhou, Shenzhen, Zhuhai, Shantou, Yangjiang, Maoming, Jiangmen and Zhanjiang. The existing mangrove area in Guangdong is 90km^2.

(中国日报 China Daily 5.1.2002)

四人因私自于广西北海合浦县砍去2.9公顷红树林而被判监1至4年。

Four people convicted of cutting 2.9 ha of mangroves in Hepu County, Beihai, Guangxi, were sentenced to 1-4 years in prison.

(中国日报 China Daily 20.11.2002)

广东将于未来十年间建造100个人造礁脉，花费将超过八亿人民币。

Guangdong will build 100 artificial reefs in the next 10 years, at a cost of over ¥800 million.

(中国日报 China Daily 30.11.2001)

拓展处在香港新田村水池展开本地首个人工淡水湿地实验计划，在一万一千七百平方米的范围内种植六千五百株九种湿地植物改善生态。若试验成功，将会成为改善环境的一项新措施。

The Territory Development Department of the Hong Kong Government has launched an artificial fresh-water wetland experiment, at San Tin. 6,500 individuals of nine wetland plant species were planted in an area of 11,700 m^2, with the aim of environmental improvement.

(东方日报 Oriental Daily 12.9.2001)

海南省首次在一批从日本进口的木质包装中检获对植物有害的违禁生物——松材线虫。松材线虫是国际公认对林木有极大毁灭性的有害生物，主要危害松、杉和柏等针叶树种，被称为「松树超级癌症」。

Pinewood Nematode *(Bursaphelenchus xylophilus)*, a prohibited organism harmful to plants, has been found for the first time in a wooden package in Hainan coming from Japan. The nematode has had disastrous impacts in China and elsewhere, mainly on coniferous trees such as pine and fir.

(明报 Ming Pao 5.11.2001)

广东西部雷州一次清理行动查获出250多只活鸟及二千多只候鸟尸体，并发现雷州在每年冬季时，都有大批候鸟遭肆意扑杀，沦为食客佳肴。

During raids in Leizhou, west Guangdong, over 250 live wild birds and 2,000 carcases were seized. Many migrating birds are killed and eaten each year in Leizhou.

(中国日报 China Daily 13.11.2001)

随意放生外来龟种影响香港生态。以巴西龟为例，它们在野外霸占其他动物的生活环境，间接赶绝其他动物。为免它们对生态造成灾害，香港政府渔农自然护理处正构思设立收容中心，接受市民放弃饲养的龟只。

Exotic turtles (e.g. Red-eared Slider *(Trachemys scripta)*) released into nature in Hong Kong disrupt the ecology, occupying niches of endangered native species. To prevent further damaging releases, the Government's Agriculture, Fisheries and Conservation Department is to consider establishing a shelter for unwanted pet turtles.

(明报 Ming Pao 6.11.2001)

广州野生动物保护站、市森林警局及广州动物园联手归放部份由野生动物贩子手中拯救出来的重点保护野生动物，包括十一头豹猫、三头飞鼠、十四头夜鹭和一头果子狸，其中部份更是从其他省份运来的。是次归放地点是番禺大虎山森林公园。*(南方都市报 17.1.2002)* 数位妇女凑资购买一批在市场内售卖的珍禽，并于乳源瑶族自治县云门山大觉禅寺门前，把这批包括刺猬、果子狸、猴面鹰及禾花雀等野生动物放生。*(南方都市报 17.1.2002)* [编者按：虽然这种放生方式的出发点是正确的，但却严重违反了世界自然保护联盟(IUCN)的物种重引入指南。若要把动物归放野外，必须遵照IUCN的物种重引入指南。然而，上述两项出发点可嘉的放归行动都违反了IUCN的物种重引入指南。把来自其他省份的动物归放野外更可能因疾病、加剧竞争当地资源、及传播非本土亚种的不利基因等因素为当地本土的野生种群带来反效果。请参考刘惠宁于本刊第18至24页的文章。

The Wild Animal Protection Station of Guangzhou, the Municipal Forest Police Department and Guangzhou Zoo jointly released some key protected wild animals rescued from the hands of wildlife traders. These animals included 11 Leopard Cats *(Prionailurus bengalensis)*, 3 flying squirrels, 14 Night Herons *(Nycticorax nycticorax)* and one palm civet, some of which were imported from other provinces. The release site was Dahushan Forest Park in Panyu. *(Nan Fang Daily 17.1.2002)* Several women bought wild animals, including hedgehogs, palm civets, Grass Owl (*Tyto* sp.) and buntings, from a market and released them at the door of Dajie Zen Temple, Yunmenshan, Yaozu County, Yuyuan, Guangdong. *(Nan Fang Daily 17.1.2002)* [Editors' note: release of animals into the wild should follow the *IUCN Guidelines for Re-introductions*. However well-intentioned, both the above releases were in breach of the Guidelines. Release of the animals imported from other provinces may adversely impact local wild populations through disease, competition for resources and spread of disadvantageous genes from non-native subspecies. See article by Michael Lau in this issue, pp18-24]

白腹军舰鸟 *(Fregata andrewsi)*〔在华南沿岸时有发现的鸟种〕在印度洋东南部的圣诞岛繁殖。由于小岛被外来蚁种(长脚蚁 *Anoplolepis gracilipes*，参费乐思于本刊第34至36页的文章)入侵，令这种雀鸟面对极大威胁。估计全球目前只有三千二百只白腹军舰鸟，数目不断下降。推断其种群于未来三十年将会骤减八成，因此该鸟被评估为「极度濒危」。

Christmas Island Frigatebird *(Fregata andrewsi)* [a species sometimes reported on the South China coast], breeds on Christmas Island in the Indian

Ocean. An exotic ant species [*Anoplolepis gracilipes*, see article by John Fellowes on p34 to 36] threatens the survival of the species, whose population is only 3,200 and still declining. The population is projected to decrease by 80% in the coming 30 years, making it critically endangered.

(明报 Ming Pao 10.7.2001)

广西锦州一棵樟树已有一千八百多年历史，复盖面积达 0.2 公顷。

A camphor tree in Jinzhou County, Guangxi has been aged at over 1,800 years. The tree extends over a 0.2 ha area.

(中国日报 China Daily 6.12.2001)

三百多只雀鸟在广西鹿寨公安庭院里的榕树上筑巢。这些雀鸟现由公安保护，免于被人猎杀的厄运。

Over 300 birds nest in a banyan tree in the courtyard of Luzhai County police station, Guangxi. The birds are protected by the police against hunters.

(中国日报 China Daily 13.11.2001)

南方点滴 ELSEWHERE IN THE SOUTH

云南动物资源正面临外来物种的威胁。云南是中国淡水鱼类最丰富的地区之一，淡水鱼类总种是全国的四成多。目前全省大约有 1/3 的种类濒临灭绝，湖泊鱼类已经有 2/3 消失，有 62 种鱼类已经采不到标本。这是由于当地农业部门把外地鱼引进到湖里来，来把鱼业产量提高，破坏了当地整个水生生态的平衡，使原有鱼类濒临灭绝。

The fauna of Yunnan is under threat from exotic species. Yunnan has more than 40% of China's freshwater fish species. However, about one-third are thought to be close to extinction. Two-thirds of Yunnan's lake fish species have been lost, and 62 native fish species can no longer be found. The main cause of this devastating decline is the introduction by the local agriculture departments of exotic fish into lakes and ponds, with the aim of increasing fish yields. The introduced fish have upset the aquatic ecosystem and driven native fish to extinction.

(人民网 People's Daily 15.11.2001)

中外专家将于上海崇明岛东滩东旺沙放归一批扬子鳄*(Alligator sinensis)*，并为它们颈上挂上无线电追踪器，以探测其活动范围，以为日后更大型的追踪系统鋪路。

Chinese and overseas experts will release Chinese Alligators *(Alligator sinensis)* at Dongwangsha, Dongtan, Chongming Island, Shanghai. Radio collars will be used to track their movements, as a trial for a larger-scale tracking operation.

(人民网 People's Daily 11.9.2001)

中外鳄类专家联合进行的一项野外研究表明世界濒危的野生扬子鳄正面临灭绝威胁，总数不足一百五十条，分布于安徽南部和浙江西北一片狭长地带内。中国将实施扬子鳄野生种群恢复工程，以扭转它们灭绝的厄运。

Field surveys indicate the Chinese Alligator is on the verge of extinction in the wild, with less than 150 remaining along a narrow strip in south Anhui and northwest Zhejiang. The Central Government will implement a project to restore the wild population.

(新华网 Xinhua News 27.9.2001)

浙江省龙泉市将建立十八个总面积达5.2万馀亩的森林和野生动物自然保护区。自然保护区建立后，龙泉将形成一个以国家级自然保护区为核心，以自然保护区为补充的森林和野生动植物保护网络，对拯救濒危物种，保护生态系统的完整性和生物多样性，推动生态旅游业的发展。

Eighteen nature reserves for forests and wild animals, with a total area of 35 km^2, will be established in Longquan City, Zhejiang. Longquan will form a network for forest and wildlife conservation, with a national nature reserve as a core unit surrounded by other reserves.

(中国绿色时报 China Green Times 5.9.2001)

为免影响黑颈鹤的栖息地，内昆铁路贵州段威宁站至威宁北站一段特意改变了原有路线，经过三年时间的努力修建，本年九月全线铺通，而各界对环保的重视令黑颈鹤的数量逐年增加。

To avoid impact on the habitat of Black-necked Crane *(Grus nigricollis)*, the Guizhou section from Weining station to North Weining station of the Neikun Railway, was re-routed. After 3 years of reconstruction the network is now completed. Crane numbers have increased following conservation efforts.

(人民网 People's Daily 25.9.2001)

福建省泰宁县林业局副局长及另外三位官员因核发三份采伐许可证，批准盗伐林木而被撤职。

Four Forestry Bureau officials at Taining County, Fujian, including the vice-director, were sacked after allowing an illegal logging concession in protected forest.

(中国日报 China Daily 21.12.2001)

今夏重庆壁山县古老城遭到罕见的蝗虫灾害，破坏当地近千亩农作物和果树。人们大量捕捉令青蛙和蛇的数量锐减，当地村民呼吁外界支援大量青蛙、麻雀和蛇作治蝗之用。

An invasion of locusts was reported this summer at Gulao, Bishan County, Chongqing, damaging nearly 67 ha of crops and fruit trees. Villagers lamented the loss of predatory frogs, birds and snakes to control the locusts.

(人民网 People's Daily 11.9.2001)

重庆市巫山县从1994年发现野猪等野生动物，至今已有十个乡镇发现上万头野猪，这些动物的出现，在展示生态环境好转的同时，也给农民带来了麻烦，为了贯彻野生动物保护法，巫山县决定迁移居住于该县的一万名农民，这一措施不但保护了野生动物，而且有利于农民脱贫致富。

Since 1994 nearly 10,000 Wild Boar sightings have been made in Wushan County, Chongqing. Their presence indicates ecological recovery, but has brought problems for farmers. Wushan hopes to move 10,000 farmers, so wild animals can be protected while farmers are shifted to higher-income employment.

(新华网 Xinhua News 20.10.2001; 中国日报 China Daily 7.12.2001)

湖南省桃源县乌云界省级自然保护区内发现可能属华南虎的足迹、抓痕和粪便，专家已在保护区安装红外线自动摄像装置，以拍取可能为世界上第一张野生华南虎的照片。

In Wuyunjie Provincial Nature Reserve, Taoyuan County, Hunan, footprints, claw marks and scats apparently of South China Tiger *[Panthera tigris amoyensis]* were found. Experts have set automatic infrared cameras in the reserve in an attempt to take the first photograph of the subspecies in the wild.

(人民网 People's Daily 21.9.2001)

鄂西恩施州及江西省宜黄县发现有华南虎踪迹，当地林业局为加以证实华南虎的存在，对持有有关证据的人士进行悬赏。

Traces of South China Tiger *[P. tigris amoyensis]* have been reported from Enshizhou of Hubei and Yihuang County of Jiangxi. Local Forestry Bureaus have offered a reward for valid proof of the tiger's presence.

(人民网 People's Daily 20- 21.11.2001)

长江北望 NORTH OF THE YANGTZE

单一种植松树纯林不能让四川西昌避免水土流失。中国环境与发展国际合作委员会的报告(参本刊第3页的简报)指出表土覆盖及生物多样性对恢复林区的重要性。国家财政部将投入人民币三千亿在未来十年间用于「生态建设」上，而中科院的解焱表示，北方的「绿色长城」项目正面临与西昌类似的问题。

Afforestation with monospecific pine plantation has failed to prevent soil erosion in Xichang, Sichuan. A report from CCICED [see Short notices, p. 3] noted the importance of ground cover and biological diversity in forest restoration. The Ministry of Finance will put ¥300 billion into "ecological construction" in the next decade, but the northern "Green Great Wall" project faces similar problems to Xichang, says Xie Yan of Chinese Academy of Sciences.

(中国日报 China Daily 20.12.2001)

湖北省森林资源二类清查结果显示截至「九五」末期，即2000年，该省森林面积共9056万亩，森林覆盖率达45.97%，与一九八五年相比，森林覆盖率提高了14.37%，湖北省林业局称，他们将重点解决森林资源分布不均、林分质量不高、林种结构不合理和依法治林力度不够等突出问题。

In 2000 the total forest area in Hubei was 60,400 km^2, with a forest cover of 46% - an increase of 14% over the 1985 figure. Hubei Forestry Department will now focus on issues such as the patchy distribution of forests, low forest quality, inappropriate species composition and inadequate management.

(人民网 People's Daily 10.9.2001)

30头 经人工饲养的麋鹿 *[Elaphurus davidianus]* 将于江苏大丰放归自然。

30 captive-bred Pere David's Deer (Milu) *[Elaphurus davidianus]* will be released to the wild in Dafeng, Jiangsu.

(中国日报 China Daily 7.11.2001)

近年考察证实西藏有约二十只野生孟加拉虎，分布于喜马拉雅山南坡和墨脱。中共现正制定一项大规模老虎保护计划。

According to a recent survey Tibet supports 20 wild Bengal Tigers *(Panthera tigris tigris)*, on the southern slopes of the Himalayas and at Methok. The government is planning a massive protection programme.

(明报 Ming Pao 2.8.2001)

两人因企图盗猎藏羚羊*[Pantholops hodgsonii]*而被青海可可西里国家级自然保护区职员抓获。

Two people attempting to poach Chiru *[Pantholops hodgsonii]* were arrested by staff of Hoh Xil National Nature Reserve, Qinghai.

(中国日报 China Daily 13.12.2001)

人口密集和多年来的资源开发令江苏珍稀植物数量日益减少，部分处于濒危状态。秤锤树、香果树等珍稀植物已绝迹野外。

Dense population and excessive resource exploitation have depleted rare plant populations in Jiangsu. Some plants such as *Sinojackia xylocarpa* and *Emmenopterys henryi* are extinct in the wild.

(人民网 People's Daily 20.11.2001)

湖北恩施州来凤县海拔九百米一村庄发现一片罕见国家珍稀植被南方红豆杉，面积达二百五十平方米。由一棵母树飞子繁殖成林的母树，树高二十八米，胸径一米，专家考证该树已有三百多年历史。

A population of the nationally rare yew tree *Taxus wallichiana* var. *mairei* was found at 900m in a village in Laifeng County, Enshizhou, Hubei. The population, covering 250m^2, results from a mother tree whose seeds were spread by wind. The mother tree is 28m in height, with a dbh of 1m, and is thought to be over 300 years old.

(人民网 People's Daily 18.9.2001)

由于沙尘暴、沙漠化及水土流失等问题已令新疆每年损失人民币六十亿圆，新疆将植林六千三百多平方公里，以包围正逐步扩散的塔克拉玛干沙漠。

Xinjiang will replant over 6,300km^2 to encircle the expanding Taklimakan Desert. Xinjiang loses ¥6 billion per year to sandstorm damage, desertification and erosion.

(中国日报 China Daily 4.1.2002)

贸易 INTERNATIONAL/ NATIONAL TRADE

广东省、海南省及安徽省林业局的野生动物保护管理站都分别与该省的公安厅、工商局，联合开展「猎鹰行动」，在三地严厉打击破坏野生动物资源违法犯罪活动，查获大量面临被宰的野生动物，其中包括巨蜥*(Varanus salvator)*和蟒蛇*(*可能是 *Python molurus)*。

Guangdong, Hainan and Anhui launched an "Operation Eagle-Strike" as a joint action between their respective Police Offices, Industrial and Commercial Bureaus, and Wild Animal Protection Management Stations. In a crackdown on the illegal trade in threatened wild animals, they inspected and found thousands of protected wild animals, including Water Monitor *(Varanus salvator)* and Python (presumably *Python molurus*).

(人民网 People's Daily 26.11.2001; 中国绿色时报 China Green Times 5.12.2001; 新华网 Xinhua News 6.12.2001)

广东省决定由2002年开始全省实行野生动物经营利用年度经营限额。今后，通过正当途径获得野生动物经营资格的饭店也要限额供应，超标者将被处罚，严重的甚至吊销营业执照。

Guangdong is to implement an annual quota scheme for wild animals used in trade. All restaurants permitted to trade in wild animals will be restricted to a limited quota. Those exceeding the quota will be penalised, and the business license suspended in serious cases.

(人民网 People's Daily 6.12.2001)

三名人士因携带廿一只穿山甲*(Manis* spp.*)* 而遭深圳公安扣留。

Three people with 21 pangolins (*Manis* spp.) were detained by police in Shenzhen.

(中国日报 China Daily 14.11.2001)

两人尝试偷运三十一条蟒蛇 *(P. molurus)*和八只穿山甲 *(Manis* spp.*)*，结果于广西与越南接壤的防城遭逮捕。该批动物被转送往广东。

Two smugglers were arrested, and 31 pythons *(P. molurus)* and 8 pangolins (*Manis* spp.) seized at Fangcheng on the Guangxi-Vietnam border. The animals were en route for Guangdong.

(中国日报 China Daily 9.1.2002)

迁地保育 *EX SITU*

获国际动物福利基金会资助的北京猛禽护理中心于十二月在北京师范大学揭幕，将由国际动物福利基金会与北京林业局野生动物保护站联手运作，该中心的职员都在国外接受有关猛禽的训练，中心处长是鸟类学家郑光美。

Beijing Raptor Rescue Centre opened in December, at Beijing Normal University. Funded by International Fund for Animal Welfare and run jointly with the Wild Animal Protection Station of Beijing Forestry Bureau, the centre has staff with overseas training in raptor care. The director is ornithologist Zheng Guangmei.

(中国日报 China Daily 11.1.2002)

安徽省扬子鳄繁育研究中心研究员发现扬子鳄性别与孵化温度有著密切的关系，透过改变孵化温度可以完全控制人工繁育扬子鳄的性别比例。研究人员并就扬子鳄常感染的疾病进行了有效防治，成功为大规模人工繁育扬子鳄创造了条件。

Researchers at the Alligator Research Centre in Anhui have found the sex ratio of Chinese Alligators can be controlled by changing incubation temperature. Researchers have had success in preventing and cure of frequent alligator illnesses, paving the way for large-scale captive breeding.

(新华网 Xinhua News 11.9.2001)

国内多位动物专家共同研究被圈养的华南虎 *[Panthera tigris amoyensis]*，为他们进行体检，了解病史及繁殖习性等，以免近亲繁殖。他们也制定了委员公约，实行国内华南虎交配资源共享但不能随意买卖。现时国内十个动物园内仅圈养四十九只华南虎。

Zoologists from across China have launched a study on South China Tigers *[P. tigris amoyensis]* in captivity, to record their past medical history and breeding and produce a plan to avoid inbreeding. A new committee will ensure that captive South China Tigers are used in the breeding programme and not for sale. There are 49 South China Tigers in 10 zoos in China.

(人民网 People's Daily 5.12.2001; 中国日报 China Daily 6.12.2001)

昆明动物园的熊猫因感染不明疾病，截至2001年十二月已有九只死亡。

An unnamed disease killed 9 Giant Pandas at Kunming Zoo in December 2001.

(中国日报 China Daily 17.1.2002)

广东市环境保护局与河源市将于今年合作于新丰江水库附近健设环保博物馆，建造费约为人民币一千万元。

Guangdong Environmental Protection Bureau and Heyuan are to build an environmental museum near Xinfengjiang Reservoir this year. The cost will be over ¥10 million.

(中国日报 China Daily 3.1.2002)

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A selection of recent publications

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最佳的公园系统

选自 Alvaro F. Ugalde 于一九八九年撰写，在授权下摘录自由纽约牛津大学出版社出版，David Western 和 Mary Pearl 编辑的《保护自然在二十一世纪》(第 145-149 页)
由李凯盈、卢苓芳译。

……为了保护未来的自然环境，我们必须处理几个要点：

1. 我们必须具备所需知识，从而令国家公园和环境保育的理念在社会中根深蒂固，并把它们紧密地与日常生活、教育以及当地经济连接起来。我们必须凭藉在公营及私营界别内营造及保持强大的保育能力，从而学懂如何将保育工作在地区及国家层面公有化。我们亦须确立更有效的方法去收集和处理与管理有关的数据(*Janzen, 1986*)。人类也需要这些资料来加深对大自然的认识。

2. 一个具挑战性的问题是，当我们不能拯救所有部份，应该如何抉择呢？我们如何拯救越来越分隔的部份呢？下一世纪的公园面积将会缩小，被高度管理的自然界……我们需要懂得如何将国家公园管理者和生态学家的技能相结合……我坚持把大量资源放于热带生物分类学中的诉求。

3. 国家公园管理者必须尽快学习如何感染外界……国家公园的创建是永恒的，我们必须确保它们不会因资料贫乏或政治缺乏远见而受害。国家公园管理者和相关机构必须担当促进善用自然资源的重要角色。当地球上生命的境况成为所有人类所关注的事情，自然资源便会为人善用。

4. 二十一世纪的国家公园需要出色的沟通员。我们如何将讯息传达至今日制定决策的成年人及为未来制定政策的小朋友呢？我同意 Janzen 说的一话：「在十至三十年内(视乎你身在何处)，热带的自然界若没有扎根于当地及外界社会的文化认知中，便会被摧毁……」*(Janzen,1986)*……保育工作需要大量引入现代的传讯科技，以接触广大群众。我曾目睹像总统、汽车、香烟和很多相对生命而言微不足道的东西，都能成功透过这种科技作宣传。我们也需要资金，这意味集合生物学家、生态学家、心理学家、教育家、新闻从业员等，与其他人员共同合作，我们首先要传递什么讯息呢？之后又该带什么讯息给大众呢？我们应该如何培养真正的个人兴趣，改变他人的看法，并确立集体的保育决议呢？现今很多国家的国家公园和原野都是有名无实的，部份已不再存在，很多则受严重威胁。伐林、非法捕猎、疏忽管理、人力及资金短

缺等问题破坏了不少公园。我们必须为有效的公园管理开创国家和国际先例，并且奠定公众对它们的尊重。如果我们不这样做，新增的国家公园只会等待崩溃的厄运。保育运动应主动出击，我们一定要抱乐观态度及取得成功。与此同时，我们亦必须勇敢、直言，并反覆阐释我们的立场。

5. Janzen为国家公园提出的「方便用家」这个概念，我们必须推广至公园职员、周围居民、科学家及游人。特别迫切的是要将周围有关的居民和当地社群纳入公园的管理系统中，因为大部份公园都依赖他们的支持，他们的举动对国家公园的未来可谓举足轻重。很多居住于第三世界国家公园周围的居民都很穷困，我们需要确保国家公园为他们提供合理的益处及赔偿他们因不能再继续传统活动的损失；当地居民的支持亦有助缓冲外界对公园的影响。最重要是确保国家公园的存在不至于令贫富悬殊的问题恶化。Janzen呼吁生活在热带原野附近的农业生态系的人，利用原野去提高他们生活的智慧。他又认为推广动植物的生态故事不单能够吸引大众的注意力，也能培养大众对原野的价值。也许我们应该研究家长与教师的联系如何增强人们与学校的关系，并把这个机制套用在管理国家公园上。

6. 社会必须分配更多资源到国家公园，并为负责管理荒野的公共机构和私人团体提供更多拨款……一直以来，这些团体所承担的责任和它们所得到的资源差距很大，而政府、国际发展组织、基金和慈善机构之间的携手合作正是解决资源不足的关键。假若国家公园获分配的资源是现有军费支出的百分之一，我们子孙的未来必定更有希望。

7. 而这些机构服务的工作人员也必须干劲十足、有效率和具有献身精神。他们必须明白自己的任务是与科学家一起带领国家公园走进使用者的世界之中；否则他们便不能为二十一世纪的人类建造最佳的公园系统了。

……在我们有生之年中，生物多样性饱受沉重灾劫，地球生物犹如进入黑暗时期，但我仍坚信这一代仍有机会改变现况，开创一个人与自然和谐共处的启蒙新世纪。

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An optimal parks system

by Alvaro F. Ugalde (Fundacion de Parques Nacionales, Costa Rica). Excerpted with permission from Conservation for the 21st Century, 1989, edited by David Western and Mary Pearl, pp.145-149. Oxford University Press, New York.

...Several specific points must be addressed in order to conserve nature for the future:

1. We must possess the knowledge to get the national parks and conservation philosophy embedded in our societies as a new kind of institution, heavily linked to education, to aspects of everyday life, and to local economies. We must learn how to nationalize conservation at the local and national levels by creating and maintaining strong conservation capabilities in the public and private sectors. We must also establish more efficient ways to collect and handle data pertinent to management (*Janzen 1986*). Humanity also needs this information for a better understanding of nature.

2. One challenging question that needs more discussion is how to choose priorities when we cannot save all the parts. How do we save parts that are becoming increasingly separated? The parks of the next century will be shrunken, highly managed fragments of nature. ...We need to know how to meld the skills of park managers and ecologists. ...I adhere to the call for a massive resource infusion into the taxonomy and classification of tropical organisms.

3. Park managers must soon learn how to influence the outside world. ...The national parks are created in perpetuity. We must see that they do not fall prey to lack of information or political myopia. The national park managers and institutions must play an important role in promoting the intelligent use of all natural resources. Intelligent use will come when the state of life on earth becomes a concern for all disciplines of human endeavour.

4. The parks of the twenty-first century will need excellent communicators. How do we get our message across to the adults who are making decisions today, and to the children who will make them tomorrow? I agree with Janzen when he says that "within 10-30 years (*depending on where you are*), whatever tropical nature has not become embedded in the cultural consciousness of local and distant societies, will be obliterated..." (*Janzen, 1986*). ...Conservation needs a massive injection of modern communications technology to reach a mass audience. I have seen presidents, cars, cigarettes, and many less worthy items than life on earth sold through these means. We also need funds. It means getting biologists, ecologists, psychologists, educators, and media specialists, among others, working together as a team. What do we tell people first, second and third? How do we foster a true personal interest, a change of attitude, and a collective decision to conserve nature? Today, the

national parks and other wildlands in many countries are often "paper parks". Some are not actually there, and many are seriously threatened. Several are being lost to logging, poaching, poor management, and lack of human and financial resources. ...We must set solid national and international precedents on efficient park management and establish public respect for them. If we do not, the new additions to the systems will only be waiting to be destroyed. We must get the conservation movement on the offensive; we must be optimistic and successful. But we must also be brave, speak out, and explain our position again and again.

5. We must make parks what Janzen calls "user-friendly" to personnel, neighbours, scientists, and visitors. It is especially urgent that we accommodate concerned neighbours and local communities in the management of the parks. Most parks depend on their support, and their actions can greatly enhance or imperil their future. Most neighbours around third world parks are extremely poor. We need to make sure that parks provide appropriate benefits for them and compensate them when their traditional activities are no longer possible. Local populations can, if sympathetic to a park, buffer it from the outside world. Most important, we should make sure that the national parks do not [exacerbate] the gap between "the haves" and "the have-nots". Janzen calls for an effort to use the wildlands for raising the intellectual quality of life of those living in the surrounding agroecosystems in the tropics. He says that if we offer people the ecological stories of animals and plants, we will not only gain their attention, but also instil a sense of values for wildlands. Perhaps we should study how people and schools become integrated through the parent-teacher associations and try to adapt the mechanisms to our national parks.

6. Society must allocate more resources to the park services and to other public agencies and private groups in charge of wildlands. ... There is a devastating gap between the responsibilities these groups have been given and the resources they have. A concerted effort between the governments, international development agencies, foundations, and the philanthropic community is necessary to close the gap. If national parks could get 1 percent of present military spending, the future would look much brighter for our descendants.

7. In turn, the people who work for these agencies...must be dynamic, efficient, and dedicated. Theymust understand that their job, along with the scientists', is to integrate the parks into the users' world. If they do not, then they are not building an optimal parks system for the people of the twenty-first century.

...Within our lifetime, biological diversity has suffered an attack of such devastating magnitude that our time may well be known as "the dark ages of life on earth." But I strongly believe that our generation still has the opportunity to change course, to initiate an era of enlightenment in the understanding of the relationship between man and nature.

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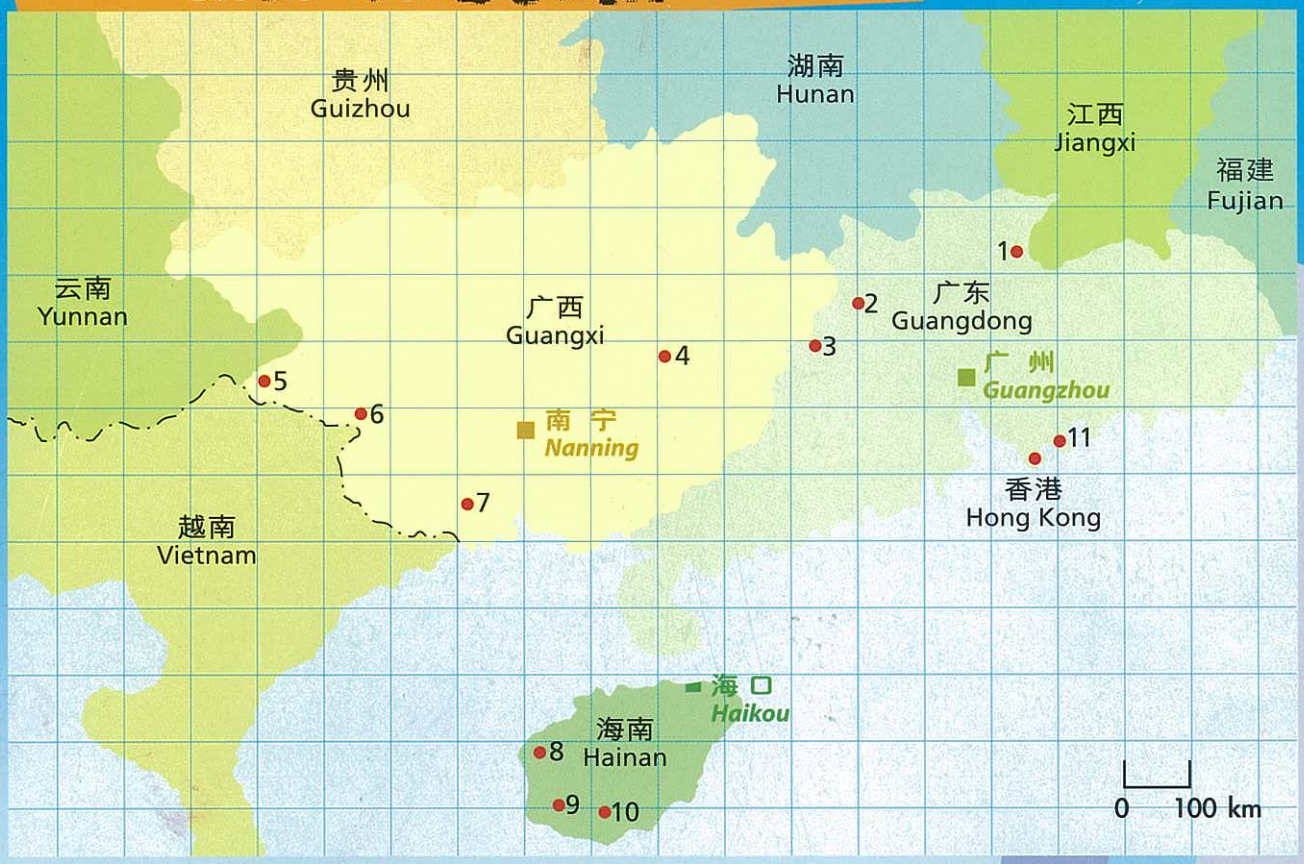
华南地图 map of South China



1.	Chebaling	车八岭
2.	Dachaoding	大稠顶
3.	Sanyue	三 岳
4.	Dayaoshan	大瑶山
5.	Napo	那 坡
6.	Qingxi	靖 西
7.	Shiwandashan	十万大山
8.	Datian	大 田
9.	Jianfengling	尖峰岭
10.	Wuzhishan	五指山
11.	Qiniongshan	七娘山

以再造纸和大豆油墨印制
Printed on recycled paper and vegetable-based ink
ISSN 1680 - 0494