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(濒危野生动植物种国际贸易公约中国科学机构)

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中华人民共和国濒危物种科学委员会
中国科学院动物研究所

二〇〇四年七月

封面照片说明:

喜玛拉雅红豆杉 *Taxus wallichiana* Zucc.

紫杉科 TAXACEAE

裸子植物 GYMNOSPERMAE

濒危等级: 濒危 (E)

CITES 附录 II

Morphology Small evergreen trees or shrubs, with spreading or upright-spreading branches; bark pale red-brown, thin-flakily peeled off; shoots irregularly alternate, greenish, turning brownish or red-brown later; winter buds ovoid, with imbricate scales, the basal ones usually triangular-ovate, acute at apex, slightly ribbed on the back, deciduous or only a few persistent around base of shoots. Leaves spirally arranged, irregularly 2-ranked, linear, usually straight, 1.5-3.5cm long, about 2.5mm wide, abruptly sharp-pointed at apex, bright green, with midrib raised above, with 2 pale yellow bands of stomata e times as broad as the green marginal bands beneath, short-petiolate. Dioecious, strobili solitary, axillary; males short-stalked, globose, consisting of numerous spirally arranged stamens; females sessile, surrounded by several imbricate bracts at base, the upper-most one bearing an ovule with a discoid collar at base. Seeds mature in the current year, nut-like, cylindrical-oblong, in a fleshy, red and copular aril, about 6.5mm long, 4.5-5mm in diameter, slightly compressed, blunt-ribbed on two lateral sides above, mucronate at apex, hilum elliptic.

Distribution China in the forest of Gyirong and Luge villages in Gyirong county of southern Xizang at 2800-3100m alt. Asia from Afghanistan through the Himalayas to the Nepal.

Ecology and Biology The climate of the area is warm in summer and cool with snow-cover in winter; the seasons alternations are distinct. The mean annual temperature is 10°C, with the absolute maximum 18°C, and the absolute minimum 0 °C; The annual precipitation varies from 800 to 1000mm; the mean relative humidity fluctuates from 50 to 60%. This tree tolerates cold and the shade, and requires heat in the growing season. It grows mostly in the relatively humid forests in valleys and by stream sides, combining by *Pinus griffithii* McClelland, *P. roxburghii* Sarg., *Tsuga dumosa* (D. Don) Eichler and *Quercus semicarpifolia* Smith. It flowers in May; seeds ripen in September and October.

Status Endangered. An endemic to the Himalayas. In China, it has a critically low population, occurring only at few locations, where it is often menaced by logging. Without urgent action, present disturbances will probably result in the disappearance of this species from Xizang.

Protection Value As an endemic of the Himalayas, *Taxus wallichiana* is of scientific interest in studies of floristics, and of the taxonomy and distribution of the genus *Taxus*.

Conservation Measures While attention is given to the protection of the native habitat, further cutting of the trees must definitely be discontinued. It is suggested that a nature reserve be established in Gyirong, with an emphasis on protecting *T. wallichiana*, *Pinus roxburghii* Sarg. and *Picea smithiana* (Wall.) Boiss. Experiments on propagation for cultivation should also be undertaken in the reverse.

Cultivation Seeds have a long dormant period, and should be stratified in moist sand at low temperature for 8-9 months before sowing in spring. The germination period may be as long as two years. Also propagated by cuttings. (cited from <China Plant Red Data Book>)

常绿乔木，树皮红褐色，薄而易剥。种子扁卵圆形，杯状假种皮红色。分布于西藏南部海拔 2800-3100 米地带。阿富汗和尼泊尔也有分布。野外种群濒危。

The 165th Party: Lao People's Democratic Republic

The Depository Government of the Convention (the Government of the Swiss Confederation) has informed the Secretariat that the Lao People's Democratic Republic deposited its instrument of accession on 1 March 2004, without making any reservations or declarations. The Convention will enter into force for this country on 30 May 2004.

老挝人民民主共和国已经于2004年3月1日正式向《公约》保存国瑞士提交了加入《公约》的法律文件。《公约》将于2004年5月30日正式对老挝生效。这使得公约成员国的总数达到165个，其中亚洲地区的成员国增加至32个。

按照《公约》的有关规定，在老挝正式成为《公约》缔约国成员后，包括我国在内的其他各缔约国可与其开展《公约》附录物种的贸易活动。

老挝，位于亚洲东南部，属热带和亚热带季风气候，山地高原占全国面积的4/5，有较丰富的森林资源。其北部与我国云南省接壤。



Sumatran Tiger on brink of extinction



Indonesia is set to lose its last remaining tiger species - the Sumatran tiger - if the widespread illegal trade in tiger parts and rampant habitat loss is not stopped, according to TRAFFIC, the wildlife trade monitoring network and WWF, the global conservation organisation. A new report by TRAFFIC, on trade in the Sumatran Tiger reveals that at least 50 Sumatran tigers were poached per year between 1998 and 2002. The latest available figures show that there are between 400 and 500 tigers left in the wild in Sumatra.

The report exposes the relentless killing of a critically endangered species by professional and semi-professional hunters. This is being driven by a substantial domestic Indonesian market for tiger skins and other parts, especially claws and teeth for trophies, charms and souvenirs. Tiger parts are readily available from dealers, within Sumatra, many of these openly displayed for sale. TRAFFIC's investigators found tiger products in 17 of the 24 towns surveyed and 20 per cent of 453 shops visited. The report also reveals illegal international trade in Sumatran tiger parts sold to other parts of Asia.

"Increased and improved enforcement is critical to saving Sumatran tigers", said Steven Broad, Executive Director of TRAFFIC. As a first step, action should be taken against the markets, trade hubs and retail outlets highlighted in the report, especially in northern Sumatra. More specialised anti-poaching units also need to be urgently established.

Loss of habitat is also a major threat to the Sumatran tiger. WWF is calling for a moratorium on clearing Sumatra's lowland forests, prime tiger territory, by two of the world's biggest paper companies APP and APRIL. The clearing of habitat has resulted in the tigers roaming into local villages, where they are sometimes captured and killed.

"Tigers all over the world are under threat from poaching, loss of habitat and conflict with nearby human populations. Now, the Sumatran tiger is on the brink of extinction," said Dr. Susan Lieberman, Director of WWF's International Species Programme. "With so few left, there are doubts about whether the population is still viable. The current poaching is jeopardizing the survival of entire populations, and indeed the very future of tigers on Sumatra---a tragic loss for the world, and for the very heritage of the people of Indonesia ? With only a few hundred Sumatran tigers remaining, WWF fears they will suffer the same fate as two other Indonesian tiger subspecies, the Bali and Javan tigers which became extinct in the 1940s and 1980's respectively.

Indonesia's efforts to address the trade threats to the Sumatran tiger are under scrutiny at a meeting of the CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) Standing Committee in Geneva this week. WWF and TRAFFIC call on the Indonesian government to increase anti-poaching measures and to crack down on the ongoing illegal international and domestic trade in Sumatran tiger parts. (www.traffic.org)

根据 TRAFFIC 的报告, 如果大量的虎的非法贸易和严重的栖息地的丧失不被制止, 那么印尼将失去他最后仅有的苏门答腊虎。最新报告指出, 1998 至 2002 年间, 每年至少有 50 只苏门答腊虎被偷猎, 现在苏门答腊野外仅存的老虎在 400 到 500 只左右。

报告揭露了职业和半职业猎人对这个极其濒危的物种的残酷杀戮, 完全是由于印尼国内的老虎贸易市场对虎皮和其他部分的需求的存在, 特别是用虎爪和虎牙来作奖品、纪念品和饰品。在苏门答腊可以从经销商那里轻易搞到老虎商品, 有很多就被公开展出销售。TRAFFIC 组织的调查人在 24 个镇当中发现有 17 个镇, 百分之二十的商店提供虎产品, 同时苏门答腊违法的虎产品交易也延伸到亚洲其它地区。

只有加强执法才能挽救濒临危难的苏门答腊虎。首先就要采取措施, 特别是在苏门答腊北部地区, 抵制老虎的非法贸易, 而且急需建立专业的反偷猎行动组织。

栖息地的丧失同样是苏门答腊虎濒危的主要原因之一。WWF 呼吁世界两大纸品公司 APP 和 APRIL 停止对苏门答腊低地森林的砍伐, 特别是在老虎的主要分布地区。栖息地的丧失使老虎被迫进入村庄, 因此有时会被捕捉和杀害。

全球的老虎都面临偷猎、栖息地丧失和与当地社区冲突带来的威胁。现在苏门答腊虎已处在灭绝的边缘, 仅存的数量甚微的老虎使苏门答腊虎的未来成为疑问。而偷猎危害老虎的整个种群, 对全球和印尼人民的将是个巨大损失。印尼的其它两个老虎的亚种, 巴厘虎和爪哇虎, 已分别在 1940 年和 1980 年灭绝。WWF 担心仅剩几百只的苏门答腊虎也将步其后尘。

在日内瓦举行的濒危野生动植物种贸易国际公约第 50 次常务委员会上, 印尼将就苏门答腊虎交易接受常委会质询。WWF 和 TRAFFIC 呼吁印尼政府加强反偷猎措施, 打击国际和国内的违法苏门答腊虎产品贸易。

****小资料:**

苏门答腊虎 *Panthera tigris sumatrae*

英名 Sumatran Tiger

苏门答腊虎仅生活在苏门答腊, 栖息的范围从平原森林到高山。相信现存野生的苏门答腊虎大约有 400-500 只, 主要是在印度尼西亚岛的五个国立公园。

苏门答腊虎拥有所有老虎中最暗的毛皮，它的黑色条纹非常宽阔，条纹之间的间隔很小而且条纹常是一一对排列。与西伯利亚虎不同，苏门答腊虎的前腿有条纹。

苏门答腊虎是所有老虎亚种中最小的一种。雄虎从头至尾身长平均 2.4 米，体重大约 120 公斤；母虎身长接近 2.2 米，体重大约 90 公斤。苏门答腊虎的食物是野猪、野鹿。这种老虎具体的领域大小还不太清楚，不过在最理想的平原雨林每 100 平方公里成年苏门答腊虎的数量估计为 4-5 只。一般随着山区海拔的提高，苏门答腊虎的数量逐渐减少因为越高的地方猎物就越少。

No respite for Critically Endangered Saiga Antelope

Gland, Switzerland, 15 April 2004 (IUCN) - Despite the conservation efforts of many people, the saiga antelope (*Saiga tatarica tatarica*) still faces imminent extinction.

The plight of this nomadic herding antelope featured prominently in the launch of the 2002 [IUCN Red List of Threatened Species](#) in which it was listed as Critically Endangered, the highest category of threat. Although extensive media coverage of the saiga's situation prompted a certain level of action, this has not been enough to stem its rapid decline.



Inhabiting the open dry steppe grasslands and semi-arid deserts of Central Asia and the Russian Federation, the status of the saiga is an indicator for the state of these fragile ecosystems. Saiga numbers have plummeted 95% from about 1 million in 1990 to less than 50,000 today. The main cause of this catastrophic decline is poaching, both for horn and meat.

Poaching is fuelled by widespread poverty resulting from major changes in the rural economies of the saiga's main range states, Kazakhstan, the Republic of Kalmykia of the Russian Federation, Uzbekistan and Turkmenistan. Unless current conservation measures are dramatically strengthened, poaching will continue and rapidly lead to extinction or near-extinction of the main remaining populations, especially that of Betpak-Dala in Kazakhstan.

This was one of the conclusions of a recent workshop held in Almaty, Kazakhstan, which gathered the world's leading saiga experts including members of SSC's Antelope Specialist Group and others concerned with securing a future for the species such as SSC's European and Central Asia Sustainable Use Specialist Groups.

Held under the auspices of a project supported by the UK Darwin Initiative, the meeting was attended by officials, scientists and experts from Kazakhstan, the Russian Federation, Uzbekistan, the UK, Germany and Norway, along with representatives from the United Nations Environment Programme, the UN Development Programme and Fauna & Flora International.

The following recommendations were made by participants:

"We recognise that the livelihoods of rural people in the range states of the saiga are under great pressure and that this is the main incentive for the continuation of poaching. We therefore recommend urgent initiatives to improve the incomes of rural people in the saiga ranges and to support alternative livelihood activities."

"We applaud the very substantial increases in human and financial resources for anti-poaching enforcement activities and public awareness made by the Republic of

Kalmykia and Kazakhstan governments under their 'Restoration of the Saiga' strategies. We call for further increases in such resources and for international support for these measures."

"We welcome the existing collaboration between the range and other states at scientific level and are grateful for donor support for current conservation-related research. We recommend enhanced co-operation between the range states in conservation and awareness raising efforts, above all in seeking funding from international institutions and other donors. In particular we call for the signing or ratification of international and trans-boundary agreements such as the Memorandum of Understanding on Saiga Conservation, Restoration and Sustainable Use drawn up by the Convention on Migratory Species."

"We draw attention to the effect of poaching for horns for the Chinese medicinal trade on the population of male saiga, with its huge negative potential for breeding success. We therefore urge CITES (Convention on International Trade in Endangered Species) to work with the Chinese authorities to ensure that the illegal international trade is totally eliminated."

尽管对塞加羚羊的保护作出了很大的努力,但是该物种还是面临着灭绝的局面。这种状况在2002年IUCN发布的濒危物种红色名录上已有记载,塞加羚羊被列为最高等级严重濒危物种。虽然媒体对此进行了全面的报道,但始终不能阻止该物种的快速下降。

在塞加羚羊的栖息地中亚和俄罗斯联邦的干枯的大草原和半沙漠地带,它们就象是这个脆弱的生态系统的显示表,它的种群数量从1990年的一百万只下降到现在不足五万只,下降了95%。而造成这一悲剧的主要原因就是以捕获羚羊角和肉为目的的偷猎行为。

塞加羚羊的偷猎在它的主要栖息地俄罗斯联邦的哈萨克斯坦、乌兹别克斯坦和土库曼斯坦的贫困农村广泛存在。除非加强当地的保护措施,否则偷猎还将导致该地区塞加羚羊的灭绝或濒临灭绝。

在最近召开的塞加羚羊的研讨会上有关专家指出,只有提高当地农民的经济收入,减少生活的压力,加强反偷猎的人力和财力资源,才有助于杜绝偷猎,保护塞加羚羊的生存稳定。加强塞加羚羊分布国和周边国家间对该物种保护的科学研究的合作,特别建议签署由迁徙物种公约提倡的为塞加羚羊的保护、恢复和可持续利用的边境协议、备忘录。由于传统中医药贸易对羚羊角的需求,使得对雄性塞加羚羊群的偷猎已经造成了该物种种群繁殖的极大的负面影响,因此敦促CITES公约协同中国的管理机构确保消灭塞加羚羊角的非法贸易。

**小资料:

高鼻羚羊,别名赛加羚羊、大鼻羚羊,属于牛科,学名为 *Saiga tatarica*。体长100~150厘米,肩高63~83厘米,雄性成年体重37~60千克,雌性29~37千克。雄性具角,长28~37厘米,基部约3/4具环棱,呈琥珀色。因鼻部特别隆大而膨起,向下弯,鼻孔长在最尖端,因而得名“高鼻羚羊”。体毛浓密棕黄色,腹部和四肢内侧带白色,冬毛灰白色。生活于亚洲北部的荒漠、半荒漠地带。结成小群生活。有时也有成百上千只的大群迁移。冬季多在白天活动,夏季主要在晨昏活动。有季节性迁移现象,冬季向南移到向阳的温暖山坡地带。跑得很快且有耐力,被牧民称为“长跑健将”。食物以草和灌丛为主。于秋末冬初发情交配。雄性间有激烈的争雌现象,但时间不长。孕期6个多月,每胎1~2仔。

我国高鼻羚羊原产新疆准葛尔盆地，属于国家一级保护动物，现野生种群已经灭绝，经引种回国，在甘肃和新疆半散养，为恢复野外种群进行实验和研究。中医通常所说的名贵药用羚羊角，就是出自高鼻羚羊。

2004 INTERNATIONAL BIODIVERSITY DAY: WATER, FOOD AND HEALTH FOR ALL



The theme of this year's International Biodiversity Day, celebrated on 22 May, is "Water, Food and Health for All". As part of IUCN's contribution to the worldwide efforts to increase understanding and awareness of biodiversity issues, the Regional Biodiversity Programme – Asia prepared two background papers which address the linkages between biodiversity, food security and water. The theme for 2004 Day was chosen to underline biodiversity's importance in ensuring food security and adequate supplies of water, and in protecting the wide array of traditional medicines and modern pharmaceuticals that are based on the world's biological riches. The theme also seeks to reflect the Convention on Biological Diversity's firm commitment to achieving the Millennium Development Goals and in particular the first goal to eradicate extreme poverty and hunger.

5月22日是世界生物多样性日。今年世界生物多样性日的主题是“生物多样性：全人类食物、水和健康的保障”，旨在强调在确保粮食安全和适当供水方面，以及在保护基于世界生物宝藏的众多传统药物和现代药品方面，生物多样性非常重要。

生物多样性是生物及其与环境形成的生态复合体，以及与此相关的各种生态过程的总和。近年来，物种灭绝的加剧，遗传多样性的减少，以及生态系统特别是热带森林的大规模破坏，引起了国际社会对生物多样性问题的极大关注。

为了保护全球的生物多样性，1992年在巴西里约热内卢召开的联合国环境与发展大会上，153个国家签署了《生物多样性公约》。联合国大会决定从1995年起，每年的12月29日为“国际生物多样性日”。2001年，根据大会第201号决议，“国际生物多样性日”改为每年的5月22日。

Saving a Wonder of the Sea from Unsustainable Trade

Its distinctive appearance, a monogamous lifestyle and male pregnancy make the seahorse unlike any other marine species. But as one of the truly wondrous creatures of the ocean, the seahorse is commercially valuable and traded internationally - and unsustainably - as a souvenir and for use in aquariums and in traditional Asian medicine.

Fortunately, this week all 33 species will receive some help: On May 15, international trade rules kick in, making seahorses one of the first commercially valuable marine species to be protected by the world's largest wildlife treaty, the Convention on International Trade in Endangered Species (CITES). In order to help countries abide by the new rules and keep trade sustainable, TRAFFIC - the wildlife trade monitoring network of WWF and IUCN - and Project Seahorse have produced a guide for Customs agents and others to help identify the different species of seahorses in trade.

"At least 77 countries are involved in the seahorse trade, so regulations on the international level are needed to ensure their protection," said Dr. Amanda Vincent, director of Project Seahorse. "An estimated 24 million seahorses are taken from the wild every year, dried and sold for use in traditional Chinese medicine, to treat everything from asthma to sexual dysfunction. Hundreds of thousands more are sold live for the aquarium trade." (www.bcnet.org)

一夫一妻制和雄性妊娠使得海马有别于其它海洋生物。但是作为纪念品和传统亚洲医药的使用,海马一直受到人们的青睐而广泛用于国际商业贸易,导致其不可持续性利用。值得庆幸的是,从5月15日起,关于海马的规定将进入世界贸易规则,这使海马成为具有商业价值的海洋生物中首批接受世界最大的自然条约管理的物种之一。

全球海马中的很多种类正在受到过度捕捞和不可持续贸易的威胁,从而使全部33种海马都被列入《濒危野生动植物种国际贸易公约》(CITES)附录。为了帮助各国维持其贸易的可持续性,海马工程和TRAFFIC为海关及其它组织编写了一本指南以帮助辨识贸易中不同种类的海马。

海马的生物特性使其特别容易受到过度捕捞的影响。由于海马中的大多数种类都实行一夫一妻制,失去配偶的雌性海马在找到新配偶前不会进行繁殖,而新配偶却不易找到。雄性妊娠则意味着小海马的成活比大多数鱼类更加依赖于其双亲。此外,在大多数种类的海马中,家庭规模都很小,这也限制了海马重新回到荒弃之处定居。

海马在全球被大量出售,用做水族馆的珍品或纪念物或是用于传统亚洲中药。随着海马在中国传统中药中需求量的大量上升,近年来它的交易似乎还在增加。人工饲养的海马成活率很低,这意味着几乎水族馆中所有海马都是从海洋中捕捉的。

“至少77个国家涉入了海马交易,因此需要制定国际性的条约来保证对海马的保护。”海马工程主任,Amanda Vincent博士说。“据估计,每年有二千四百万条海马遭到捕捞,被晒干并当作传统中药出售,用于治疗包括哮喘、性功能障碍等各种疾病。另外还有成千上万的活海马被出售到水族馆。”海马被列入CITES附录意味着,超过160个国家必须从现在起采取行动以确保海马的商业贸易不会有害于其野生种群。



短讯

全世界半数竹类濒临灭绝

联合国环境规划署世界环境监测中心5月11日发表报告称,全球一半的竹类濒临灭绝。大熊猫等以此类植物为食的珍稀动物也将面临威胁。在全世界1200多种竹类中,大约有600种的原始生长地已减少到2万平方公里。面临威胁最严重的250多种竹类的生长地已经萎缩到2000平方公里。竹类受到严重威胁的原因之一是,竹类遵循集体开花和死亡的生长规律。每一种竹子的单株往往会在一个时期相继死去。而砍伐森林等人为原因都极易对竹林造成致命破坏。(来源:《科技日报》)

三峡库区建成我国最大的鲟鱼养殖基地



随着匙吻鲟、小体鲟、史氏鲟和西伯利亚鲟全人工繁殖的成功，一个养殖水面达4000公顷、年生产商品鲟鱼2000吨、鲟鱼苗1000万尾的我国最大的鲟鱼养殖基地，日前在三峡库区建成，并成为我国鲟鱼种群规模最大的种质资源库；可供人工繁殖和养殖的鲟鱼品种17种，占世界全部鲟鱼品种的60%以上，其中大部分是可进行商业开发的二级保护鲟鱼物种。（来源：新华网）

新疆以培育和控制措施拯救雪莲

雪莲主要生长于天山和阿尔泰山的雪线附近，被国家列为二级濒危植物。由于雪莲在制药、保健品等领域的应用日益广泛，雪莲的资源量逐年减少。专家预言，如不采取措施，不出30年，新疆雪莲这个珍贵物种将会消失。为此新疆有关方面在利用组培快繁技术大量人工培育雪莲的同时严格控制野生雪莲采集交易量，从今年开始实施雪莲限额采集、交易制度。（来源：新华网）

野生兰：挣扎在灭绝的边缘

全球兰科植物约700余属2万余种，中国约2000种，特有500种左右。我国野生兰科植物濒危状况极为严重。石斛有纪录的74个种种，有30多个因药用已受到严重威胁；霍山石斛和铁皮石斛已到极度濒危程度，美花石斛和金钗石斛已南觅其踪。观赏兰花野生资源也受到严重损害，受害种类集中在兜兰、兰、石斛、独蒜兰和虾脊兰等属；由于外商收购，云南文山等地区的所有兜兰被破坏殆尽。（来源：《人民日报》）

正确处理野生动植物保护与开发的关系

野生动植物资源兼具有生态功能、物资资源功能、遗传基因功能、文化功能等四大基本功能和可再生性一大特点，在我国全面建设小康社会过程中具有不可替代的重要地位。野生动植物基因知识产权的竞争，关系到未来一个国家、一个民族的存亡兴衰。要正确处理资源保护、培育和合理利用的关系，在保护中开发，在开发中保护，走可持续发展之路。

在正确认识野生动植物资源特点的基础上，改变单纯保护、片面保护的观念，在资源许可的范围内，提高科技含量，已有限资源最大程度创造出经济效益，服务与国民经济建设。（来源：《人民日报》）

报刊文摘

拯救华南虎

华南虎在IUCN受威胁物种红色名录中被列为极危物种。中国国家林业局在2001~2002年组织了一次为期8个月的考察，没有能够发现任何一只野生华南虎。不过据信，在野外可能

还有极少的个体存活，尽管这些个体从长远看无法形成一个能够持续生存的种群。在中国，人工饲养的华南虎大约有50只，都是从一个很小的饲养群体发展起来的。

包括国际上的科学家和野生动物管理者在内的 IUCN 猫科动物专家工作组对一项由中国国家林业局野生动物保护司的司长提出的建议表示支持。该建议的内容是要组织一个包括所有对保护华南虎感兴趣的专家参加的研讨会，讨论这些专家在不同领域内与中国政府的老虎项目展开合作的问题。

除了华南虎以外，在中国的边境地区还分布有虎的另外三个亚种。在东北地区分布有一些东北虎，这些东北虎与分布在俄罗斯远东地区的主要种群有着联系。在中国与越南、老挝和缅甸的边境地区，据信还分布有印支虎，而在中印边境地区，还分布有一个小的孟加拉虎种群。

猫科动物专家组相信，目前最重要的问题是要有一个保护这四个亚种老虎的总的策略。对于华南虎而言，鉴于其十分危险的境地，要想使其生存下去，必须赶快采取行动。

一个总部设在英国的非政府组织——“拯救中国老虎”——正在与中国政府的保护项目展开合作。该组织已建议将一些人工饲养的老虎转移到南非，以便能够繁育幼兽并训练它们捕获野生猎物，从而为将其送回中国并放归野生环境做好准备。

猫科动物专家工作组不反对将老虎转移到其分布地区以外，前提是 CITES 的有关条款和国家有关法律法规得到遵守。不过，工作组对华南虎的问题持保留态度并提出了建议。

工作组认为，准备将华南虎放归自然的项目最好在中国的华南虎自然

栖息地进行，而且这一工作要符合 IUCN 放归自然专家组所确定的指导原则。放归其它许多种动物的经验已经表明：这一工作失败的风险很大，对栖息地和猎物的熟悉对于确保华南虎野生种群的成功恢复是一个关键因素。

目前看来，华南虎的猎物基础(主要是鹿和野猪)在中国的野外并不充足。此外，还需要恢复一个足够大的森林栖息地。要想开展一个有效的保护行动计划，就必须对在已有条件下重新建立一个可持续生存野生种群的潜力进行评估。

目前，仅限于中国的人工饲养华南虎的小种群近亲繁殖问题十分严重，基因多样性出现了严重缺失。在这个时候，将其中一部分个体转移到其他地方将导致更严重的近亲交配问题和进一步的退化。这会危及恢复野生可持续生存种群工作的成功。现在，已经有一个管理人工繁育种群的主要计划，在选择动物用于训练和放归自然项目之前，需要对这个计划进行更新并加以实施。

华南虎在中国具有重要的文化意义。几百年以来，其形象出现在中国的传统绘画、雕塑和文学作品中。它还是中国传统的十二生肖之一。在确保华南虎在野生环境的未来所需要的工作中，科学项目仅是一个部分。工作组希望与政府部门、工商界、非政府组织和教育机构及中国人民展开合作，特别是那些生活在华南虎栖息地的人民。摘自：《世界自然保护信息》

国际鸟类保护组织称全球 1/8 鸟类濒临灭绝

国际鸟类保护组织最近公布的一份新报告显示，全球鸟类中八分之一的鸟类均濒临灭绝，原因是农业发展无限制扩展和尤其是热带地区的森林

无法实现可持续发展。

这份名为《2004年世界鸟类状况》的报告表示，令人震惊的数据显示，“我们的地球环境正在面临严峻的现

实，尤其是鸟类的生存环境日益恶劣。”

上述报告称，在全球鸟类当中，八分之一的鸟类，即1211种面临灭绝的困境。其中，179种最为危险，344种面临高危灭绝困境，还有688种面临中低度危险。报告称，全球面临危险的鸟类当中966种的数量已经不到1万只，502种的数量不足2500只，大约77种鸟类的数量还不到50只。

报告表示，几乎全球任何一个国家或地区都有一种甚至更多的鸟类濒

临灭绝，尤其是热带雨林地区更是如此，例如巴西的原始森林、喜马拉雅山脉东部地区以及东南亚群岛地区。

报告称，未经控制的农业生产对于鸟类的繁衍产生了破坏作用，有可能导致多种鸟类灭绝。报告表示：“巴西就有2万平方公里的咖啡种植园，这些园地侵占了原始的热带雨林。在印度尼西亚，咖啡种植业也是大面积雨林地带减少的主要原因。”（来源：中国新闻网）

濒危中药资源的保护与可持续利用的相关问题及对策

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摘要：随着返朴归真热潮的兴起，中药发展面临着前所未有的机遇和挑战，同时带来的中药资源缺乏的问题日益严重。本文粗浅的探讨了导致中药资源匮乏的原因，从珍惜濒危中药资源的现状及保护成绩入手，探讨了在保护珍惜濒危中药资源存在问题，针对这些问题，本文给出了几点建议。结论：积极开展立法工作，转变人们的观念，确保中药产业及相关新型产业的发展与中药资源的可持续利用协调发展；运用科学技术，尤其是应用现代生物技术对中药进行种质研究、选育良种、建立种质资源库，对珍惜濒危中药行组织培养、细胞培养，实施离体保护等不仅对中药资源保护具有深远的意义，而且有利于中药现代化和国际化，使得三者相得益彰，使得中药产业大放异彩。

Studies on Protection and Sustainable Utilization of Rare and Endangered Chinese Medicinal Resources

Abstract: With the increasing requirement of returning to nature, the Chinese medicinal resources confront with unprecedented opportunity and challenge. In order to study the protection and the sustainable utilization of rare and endangered Chinese medicinal resources, this article discusses the problems existing in the protection and sustainable rare and endangered Chinese medicine resources and raises countermeasures of this problem. The conclusions are as follows: Active legislation on the protection, change people's conceptions, and the most important is using the modern biotechnologies, such as DNA fingerprint, tissue and cell culture. It is not only beneficial to the protection and the sustainable utilization of rare and endangered Chinese medicinal resources, but also advantageous to the modernization of Chinese medicine.

历史已迈入21世纪，在新世纪里，具有我国传统文化特色和独特优势的中医药，正面临着前所未有的发展机

遇与挑战。我国拥有世界上最丰富的天然药用资源，据全国大规模中药资源普查表明，我国中药资源已达12772

种,其中药用植物 11118 种,药用动物 1547 种。中药的应用已有 5000 多年的悠久历史,形成了独特的理论体系和积累了丰富的临床经验。

中医药是中华民族五千年文化的瑰宝,为我们民族的繁衍昌盛和人类健康做出了不可磨灭的贡献。中国作为一个传统医药大国,有着丰富的药物资源,悠久的历史经验和系统的理论指导,更有着广泛应用的民众基础和巨大的市场潜力。伴随着世界性的绿色食品消费热潮和人类回归自然思潮的兴起,西方发达国家医药市场逐渐开始接受天然复方药物,美国食品和药品管理局(FDA)已开始对天然药物改变态度,只要中药能够以现代的分析方法制订出一个标准,便可以打入国际市场,这为中药的现代化、国际化发展提供了新的条件和机遇。

随着国民经济的发展和社会日趋进步,人们越来越提倡无污染、无公害“绿色药材”的 GAP 生产,人们对健康状况的关注程度提高,医疗、保健等用药需求量猛增,使从野生药用动植物中发现和寻找新化合物、新结构已成为西药开发的一种趋势,这些在不同程度上加大了中药资源的压力。野生植物资源是提取各种药物的重要来源,如从金鸡纳树中提取奎宁;从黄花蒿中发现了治疗疟疾更有效的青蒿素等等,发展中国家的药品有 80%取自植物。一些多年生的道地药材,由于需要量大,不时形成缺货现象,如黄连、当归、怀牛膝等;中药大多依靠野生资源,经逐年采集,有些品种的产量有所下降,造成常用中药材的紧缺,如厚朴;有些药材如牛



黄、麝香,本来产量就小,更显得供不应求;有些品种是国际、国内公布的珍稀濒危动植物品种,如野山参、羚羊角、虎骨等。

由于这些问题大大影响了中药的应用,影响了中药资源的可持续利用,影响到中药的现代化进程。

加之,长期以来,对合理开发利用中药资源的认识不足,一些地区不同程度上对中药资源进行了掠夺式的过度采收(捕猎),目前,很多中药资源蕴含量下降,甚至耗竭,一些种类濒临灭绝,因此,对珍稀濒危中药资源进行保护以及对于中药资源的可持续利用的研究已迫在眉睫。

一、珍稀濒危中药资源现状

上述种种原因使得一些药用种类出现衰退甚至濒临灭绝,有些种类的优良种质正面临消失和解体。如黑熊、林麝、灵猫、中国林蛙、蛤蚧、玳瑁、等 40 个种类的资源显著减少,资源量普遍下降,已影响了近 30 种动物药材的市场供应;素有“十方九草”之称的甘草蕴藏量比 1950 年下降了约 40%以上;1983 年虫草的收购量仅 $113 \times 10^4 \text{kg}$,比 1978 年下降 33%,甘草、光果甘草、羌活、单叶蔓荆、黄皮树、银柴胡、肉苁蓉、三叶半夏、新疆阿魏和紫草等 100 多种资源量普遍下降,影响 60 多个药材品种的医疗用药。黑长臂猿、原麝、海南坡鹿等近 20 种动物和见血封喉、峨嵋野连、八角莲、凹叶厚朴、杜仲、小勾儿茶、野山参、黑节草等 30 多种植物,因野生资源稀少,以致无法提供商品或只能提供少量商品;高鼻羚羊(又称赛加羚羊)、印度犀、野马和厦门文昌鱼等 4 种野生动物资源几近绝迹。

二、保护政策和措施的现状与成就

由于生存条件受到严重破坏,野生资源岌岌可危。国家为了防止中药野生资源的减少和灭绝,颁布了有关法律,收到了良好的效果。从 1956 年第一届全国人民代表大会第三次会议上通过“在全国各省(区)划定天然森林伐区,保护自然植被以供科学研

究需要”的提案开始,同年在广州肇庆市建立我国第一个自然保护区—鼎湖山自然保护区。1963年,国家颁布《森林保护条例》中明确规定“保护稀有珍贵林木”。到1965年,我国已建立起13个自然保护区。1984年我国公布了第一批珍稀濒危保护植物名录,1987年国务院发布了“国家重点保护野生药材物种名单”,收录了野生药材物种76种,其中药用动物18种,药用植物58种。在国家保护动、植物资源名录中有药用价值的共320种,其中药用植物168种,药用动物152种。在168种药用植物中属一级保护的5种,二级保护的51种,三级保护的112种;在162种药用动物中属一级保护的38种,二级保护的114种。1988年国家环境保护局主持编写《中国珍稀濒危植物》一书于1989年在国内出现(现以《中国植物红皮书》正式在国际上发行),共收保护物种388种,药用物种约102种,其中属于常用中药约33种。上述法规的实施使中药资源的保护政策逐步地走向制度化、法律化,对中药资源保护起到了积极的作用。在“八五”、“九五”期间,“濒危动物药资源保护与开发研究”被列为国家科技攻关项目。国际上也制定了相关的国际公约及协议,例如濒危野生动植物种国际贸易公约(The Convention on International Trade in Endangered Species of wild Fauna and Flora, CITES)、生物多样性公约(Convention on Biological Diversity)、欧共体自然栖息地及野生动植物保育公约(Directive on the Conservation of Natural Habitats and of the Wild Fauna and Flora)、南亚及太平洋地区植物保护协议(Plant Protection agreement for the South—East Asia and Pacific Region)等等。

药用植物保护方面,建立自然保护区,实施就地保护,截至1993年全

国有自然保护区700多个,占国土面积的6.8%。这些自然保护区保护了大量药用植物物种,如长白山自然保护区受到保护的药用植物有900多种,峨眉山国家公园受保护的药用植物有1655种。各地还建立了一些药用生物保护区,如黑龙江省先后建立了五味子、防风、龙胆、桔梗、黄柏、黄芩、马兜铃等药材的36个保护区;广西的龙虎山、苗儿山保护区;云南的药山、海子坪保护区等,为保护各地的特产及野生药材做出贡献。同时,积极开展濒危药用植物的迁地研究和野生变家种的研究。目前,我国家种的大宗药用植物就有150多种,种植面积达440多万亩,据初步统计,由野生变为家种的药用植物不下60种,国外药用植物约30余种,主要有颠茄、丁香、毛花洋地黄、安息香、大风子等。总之,通过积极创造条件,多方面努力发展我国珍稀濒危中药资源的保护事业,为我国传统中医药的持续发展打下了坚实的物质基础。

三、濒危中药资源保护所面临的问题

1. 供需不平,采挖过渡:20世纪80年代后期,中药材经营渠道放宽,经营企业增多,中成药生产企业也由1989年的684家,发展成现在的1025家,随着中药工商业的发展,对野生药材的需求急剧上升,尤其是对濒危野生药材,导致蕴藏量不断减少,资源受到破坏,有的物种已濒临灭绝。犀角、虎骨已被禁用,穿山甲、麝香正走向濒危。

2. 生态环境恶化:野生药材是自然资源的重要组成部分,随着工农业生产 and 城市建设的发展,药用野生动植物的适生环境遭到破坏,导致生态平衡失调,从而危及了药用动植物的生存和繁衍。

3. 野生药材资源规划不系统:造成野生药材资源,尤其是濒危野生药材资源的减少、灭绝,原因是多方面

的,应综合、系统地研究,多角度审视问题,使资源得到合理开发利用和保护。

4. 部分珍稀濒危种药材缺乏必要的研究:这是一个亟待解决的问题。由于缺乏相应的科学研究,不但不利于对前人记载的功效不能进行客观评价,而且不利于确定采取何种方式进行资源保护,不利于切实遵循“保护与利用并重”原则。

四、几点建议

针对上述存在的问题,提出几点对策如下:

1. 在现有立法的基础上,完善对濒危药用野生动植物的立法,颁布更为严格的保护濒危药用野生动植物的法律,切实有效地保护濒危药用野生动植物资源的可持续性。国家应制定优惠政策,鼓励科研单位进行野生变家种、研究濒危药材的迁地保护,加强驯化,通过人工繁殖和规模栽培,以及濒危品种代用品的研究不但可使这些药用珍稀濒危植物得以保护和发展,还会取得一定的经济效应。

2. 加强与中药资源综合开发相关的新型科技产业建设。

3. 中药材致濒原因的研究,要对濒危物种及其遗传多样性进行有效保护,必须查明中药材致濒因子,这有赖于基础研究的加强。如查明濒危物种的种群动态、繁育系统、极端环境压力下的抗逆性、人为干扰对物种的影响等,从而可以揭示濒危中药材生活史薄弱环节,区分致濒的内在机制和外部原因,为物种保育、人工栽培或驯养提供科学依据。造成中药材濒危原因十分复杂,不能一概而论,更不能以偏概全。对保护物种需找出致濒因子,才能实施有效的保护。

4. 制定濒危药材的指纹图谱,尤其是DNA和HPLC指纹图谱的制定,有利于加强中药材的质量控制。在中药产业体系中,中药材既是原料药,又是成品药,中药材生产规范化及质量标

准化是中药产业的基础和关键。为保证中药材或天然药物的优质安全无公害并具可控性,国际上正积极探索药材生产管理规范(GAP)的实施,并把绿色中药材的生产看成是可持续农业中的一个组成部分。

5. 生物技术在21世纪将对生命科学的各个领域产生十分深刻的影响。当今分子生物学、基因工程技术和神经科学作为生物医学中最具生命力的“三架马车”将生物医学研究载入新的纪元,并为包括中医药学在内的传统学科的发展提供强大动力。中药DNA分子标记鉴定中药DNA分子鉴定就是运用DNA分子标记技术对原生药和含原生药的中成药及其基源进行真伪优劣的鉴定,具有特异性强、稳定性好、微量、便捷、准确等特点,特别适合近缘品种、破碎药材、腐烂药材及样品及为有限的植物模式标本、中药出土标本、古化石标本等珍贵样品的鉴定。利用试管微繁殖技术生产选育优良种苗以满足药用植物人工栽培的需要,解决供需矛盾,如水母雪莲、长春花、高山红景天等200多种。通过植物组织培养与细胞培养生产药用次生代谢物,培养方法已从固体、液体、悬浮培养、发展到成批培养(大罐发酵培养)、半连续培养、连续培养等,为植物培养细胞能像微生物那样进行工业发酵生产准备了较好的基础,如盾叶薯蓣、人参、延胡索等等。随着分子生物学和基因工程技术的发展特别是遗传图谱研究资料的积累,作物育种技术正从传统的表型选择向基因直接选择的方向转变。从野生型筛选优良目的基因,实现药用植物杂交强优组合,将成为今后药用植物育种的重要方向之一。通过基因克隆,得到次生代谢产物合成途径中的关键酶的基因,通过生物转化、酶促反应生产药物。同时利用生物芯片技术可快速筛选高品质药材,并建立生药质量标准,并且可筛选有效成

份组成相近的某稀有或濒危物种的替代者，开发新药资源。对此，生物技术应用于中药生产，不仅可以保护和增殖珍稀濒危传统药材，大量生产高品质的地道药材和药用活性成分，提高药材活性成分的含量，而且还可以使药材和药品生产质量稳定，阐明药效物质基础。生物技术在中药领域日益广泛而卓有成效的应用，不仅有利于中药资源的保护和可持续利用，而且对促进中药现代化，促进中药进入国际市场，将起着不可替代的重要作用。

6. 21世纪信息系统无疑将对中药

现代化发挥巨大的作用。中药信息系统的研究主要是利用现代的计算机技术，信息技术，结合现代的化学元素、数学、生物学、中医药学等学科的研究成果，建立和完善中药方剂数据库，中药化学数据库，中医药知识库等。在信息化方面，重点要提高信息网络化水平，对有关中药的数据要进行整理、完善提高，并应加强和充实有关中药科学研究方面的内容。

7. 濒危物种的保护是为了保持生态平衡和惠及人类，应坚持保护和资源开发管理并重。(来源：第二届濒危中药资源保护利用战略研讨会)

物种评述

**Distribution and conservation status of the endemic
Chinese mountain cat *Felis bieti***

Li He, Rosa García-Perea, Ming Li and Fuwen Wei

Abstract Records of the Vulnerable Chinese mountain cat *Felis bieti* are known from the eastern border of the Tibetan Plateau, mostly from Qinghai province, but also from other areas further north, east and north-west. Disagreement regarding the reliability of some records has led to uncertainty about the species' distribution. In order to obtain information about its current distribution and status we conducted surveys in various Chinese provinces and evaluated former records and specimens. Forty-five specimens and living individuals were examined, and 189 records were gathered from local sources. Our data confirm that this cat is endemic to China, and occurs in montane forest edge, alpine shrubland and meadow habitats. At present it is confined to the provinces of eastern Qinghai and northern Sichuan. Its wild populations are facing a number of threats and environmental pressures such as poaching, use of chemical rodenticides, and environmental changes. We recommend moving this species to Category I of Chinese law, enforcement of its protection in reserves, and the establishment of new reserves, specifically for this species, in areas in which it is currently unprotected.



Introduction

The Chinese mountain cat *Felis bieti* is one of the most poorly known living felids. It has been reported to occur in several Chinese provinces, including Qinghai, Sichuan, Gansu, Ningxia, Inner Mongolia, Xinjiang, Tibet and Shaanxi (Jacobi, 1922; Allen, 1938; Pocock, 1951; Gao, 1987). Although the records from Ningxia and Shaanxi appear to be misidentifications (Groves, 1980) and were accepted as such by Nowell & Jackson (1996), the species is still described as having a very wide range in a recent

book on the distribution of Chinese mammals (Zhang, 1997).

One of the problems is the difficulty of identification. This cat is almost unknown to Chinese scientists, and the few specimens kept at Chinese institutions are mostly misidentified. A similar confusion applies to local hunters, who do not know what species they are dealing with when they capture the animal (pers. obs.). Fur traders are probably more familiar with the identification of the species, but they do not have an interest in the geographical origin of any pelts that they receive. Therefore it is common to find incorrect information in the local literature, with the species often confused with manul *Otocolobus manul*, Asiatic wildcats of the *Felis silvestris ornata* group, or lynx *Lynx lynx* (e.g. Wang, 1990, 1991). Thus any information on the distribution and occurrence of the species requires careful evaluation of the source. However, there is little available published information. Besides old descriptions of *F. bieti* and two potential subspecies, *F. bieti chutuchta* and *F. bieti vellerosa*, Lönnberg (1926), Pocock (1951), Haltenorth (1953) and Groves (1980) made valuable descriptions and revisions of

material kept at European museums. The only available data on the biology of the species was provided by Liao (1988). In order to identify potential threats, assess conservation status and plan management programmes, detailed information about the species' distribution and status in the wild is required. Our purpose in this paper is to address this problem by collating all of the information available on the species.

Methods

This study was conducted in 2000 and 2001. Our main goals were to obtain distribution records from both Chinese and foreign literature, examine specimens kept in Chinese institutions, living individuals in zoos, animals captured by local hunters or observed by wildlife officers, and skins found in fur markets. We focused on making correct identifications of specimens and living individuals, and assessing the accuracy of each bibliographic or verbal record.

In external appearance *F. bieti* can be confused with manul, from which it can be distinguished by its larger size, moderately developed ear tufts, uniform pale brown coat and long, conspicuously ringed tail; manul has ears without tufts, a grayish colour and a short tail with a dark tip. Asiatic wildcat has a slimmer build than *F. bieti*, a light brown or grey coloration with dark spots and a slim tail. Lynx has a very short tail, long ear tufts, and is larger in size. Skulls of *F. bieti* were identified following the description given by Lönnberg (1926); they can be distinguished by the inflated tympanic bulla (although it is not as well developed as that of manul), a mesial ridge on the basisphenoid and presphenoid bones, and the absence of a metaconid in the lower carnassial m1.

Results

A total of 45 specimens and living individuals formerly identified as *F. bieti* were examined from Beijing, Qinghai, Gansu, Sichuan, Ningxia, Xinjiang and Inner Mongolia. In addition, 168 records were examined from the literature, and 21 records were obtained from local hunters, fur traders and wildlife officers. Out of 45 specimens examined, 40 were identified as *F. bieti* (30 specimens and 10 individuals), four as belonging to the *F. silvestris ornata* group (in Gansu and Ningxia), and one as *O. manul* (in Xinjiang). Although specimens and living individuals have been reported from Qinghai, Sichuan, Gansu, Ningxia, Xinjiang and Inner Mongolia, the present range of *F. bieti* is restricted to the eastern half of Qinghai and north-western Sichuan.

Qinghai. The cat is most frequently found in this province, where its range covers 23 counties. Since 1973, 44 living animals, of which 10 are still alive, have been

captured and kept in captivity at Xining Zoo, Beijing Zoo and Xining Wildlife Rescue Center. Of these, 21 individuals were captured from Huangzhong, Huangyuan, Menyuan, Qilian, Tongren and Dulan, the localities in which *F. bieti* was most commonly found.

Sichuan. *F. bieti* occurs in north-western Sichuan. Its range includes seven counties: Songpan, Garze, Dawu, Dege, Zamtang, Kangding and Jiuzhaigou. Most of the specimens kept in Europe were collected from this province. The type specimens were collected from the vicinity of Tatsienlu (Kangding) and Tongolo (a location that we are unable to identify). Jacobi (1922) described two skins collected by the Weigold Expedition from Songpan. Matschie (1908) recorded a skin collected by the Filchner Expedition from Kweito (another location that we are unable to identify), in the extreme west of Sichuan, not far south of the type locality of *Felis pallida* (a synonym of *F. bieti*). Weigold secured two specimens in 1922 from the wooded mountains of Wassulan (a further location that we are unable to identify), one caught in a snare and the other purchased in a store (Allen, 1938). In 2001 we found 50 skins on sale at Songpan and Jiuzhaigou markets; the skins were confiscated and are now kept at Sichuan Normal College, the Institute of Zoology, Chinese Academy of Sciences, and Sichuan Forestry Bureau. During our own survey in Kangding we could not locate any recent records of the species.

Gansu. *F. bieti* was reportedly found in southern Gansu (Kansu). Twelve specimens assigned to this species, kept at the St Petersburg and Stockholm Museums, were collected from Minshan Mountains, western Gansu and southern Tetung (or Tatung\Datonghe) Mountains, but the first locality is along the border of Qinghai and Gansu, and the latter locality corresponds to the Datonghe Mountains of Qinghai province. Wang (1991) identified two individuals as *F. bieti* that were captured in a suburb of Lanzhou. However, we checked the specimens and identified them as belonging to the *F. silvestris ornata* group. Liu (2001) reported the species in Dunhuang Natural Reserve but his information, taken from old books, is unreliable. Besides specimens in foreign museums, no specimens from Gansu are known to Chinese researchers.

Ningxia. *F. bieti* was reported from the north-west of this province. Birula (1917) described one specimen, collected by Kozlov in 1908 at Goizso (from Gobi of 'Southern Mongolia') as a new species, *Felis chutuchta*. This locality is actually in north-western Ningxia. However, Haltenorth (1953) and Groves (1980) concluded that this specimen was *F. silvestris ornata*. Whether or not *F. bieti* occurs in this Province is as yet unresolved, given the inconsistency of morphological information for cats recorded there. In 1986 two living cats were taken by hunters in Zhongwei Shapotou Reserve and identified as *F. bieti chutuchta*. We checked these specimens and found them to be *F. silvestris ornata*. Finally, although one skin of *F. bieti* kept at the Institute of Zoology, Chinese Academy of Sciences, was purchased in this province in the 1970s, its precise locality is not recorded. Thus there are no reliable records from this Province.

Shaanxi. Pocock (1943) described a new subspecies, *F. bieti vellerosa*, from a skin kept at The Natural History Museum, London, collected from Yulin (Yulinfu, Ordos), Shaanxi (Gao, 1987). However, Groves (1980) rechecked this specimen and identified it as a domestic cat. Other than this record, there have been no reports or collections of *F. bieti* from this Province.

Xinjiang. The survey conducted in the 1950s by the Chinese Academy of Sciences reported sightings in nine counties, but no specimens were collected. Wang & Wang (1986) reported that *F. bieti* may occur in the desert mountains of Xinjiang (the Pamir

and Kunlun Mountains), but the reports have not yet been confirmed. We located only one possible specimen, collected from Qitai County and kept in Xinjiang University, but upon examination we concluded it was *O. manul*. Thus there are no reliable records from this Province.

Inner Mongolia. The subspecies *F. bieti chutuchta* was originally described after a specimen collected in this Province but, as confirmed by Gao (1987), it was from north-western Ningxia. Although Wang *et al.* (1977) reported its occurrence in Alxa Zuoqi, this record is not reliable because Wang (1990, 1991) twice misidentified *F. silvestris* as *F. bieti*. Although one skin of *F. bieti*, in the Institute of Zoology, Chinese Academy of Sciences, was purchased in this province in the 1970s, its precise locality is not recorded. We were not able to find any further information concerning the past or present occurrence of *F. bieti* in this Province.

Tibet. Groves (1980) reported that two skins kept at the Zoologisches Museum, Berlin, were labelled Tibet. As the name Tibet was applied to the whole Tibetan Plateau in the early 20th century and the collector, Tafel, travelled through what is now Qinghai province, Groves suggested that the skins came from the eastern slopes of the highlands of that Province rather than from the area now referred to as Tibet. We did not find any records in the Chinese literature, and no specimens have been collected, although the Chinese Academy of Sciences conducted a large-scale, long-term survey in the area. An investigation conducted by the Tibet Forestry Bureau in the 1990s suggested that *F. bieti* occurred at Nagqu, Ngari, Dengqen, Baqen, Biru and Sog Xian (Yin & Liu, 1993) but given the lack of either earlier or recent records, we consider this information to be unreliable.

This cat was previously called the pale desert cat and Chinese desert cat by Allen (1938) and Ellerman & Morrison-Scott (1951), respectively, based on its supposed occurrence in desertic habitats. However, after Groves (1980) revised the records assigned to this species he found it to be a species of montane woodlands and thickets, and suggested the more appropriate name Chinese mountain cat. *F. bieti* has also been seen in the grassland meadows at Haibei Station of the Chinese Academy of Sciences, Qinghai (W.H. Wei, pers comm., 2001), and Liao (1988) reported it to be characteristic of alpine meadow, alpine shrubland, coniferous forest edges, grassland meadows, semi-desert and desert areas, and loess hill steppes, at elevations of 2,800–4,100 m in Qinghai. Of these, the first four constitute its principal habitat, in which shrub species such as *Salix oritrepha*, *Dasiphora fruticosa*, *Rhododendron* spp., and coniferous species such as *Picea asperata* and *Sabina przewalskii* are dominant. In these habitats *F. bieti* feeds mainly on pikas *Ochotona cansus*, *O. curzoniae* and *O. daurica*, hares *Lepus oiostolus*, voles *Microtus oeconomus* and zokors *Myospalax baileyi*. In Sichuan, Weigold captured one *F. bieti*, and almost captured a second, in wooded mountains of Songpan at 3,000 m. Collating the available information it appears that *F. bieti* inhabits forest edges, alpine shrub land and meadows over altitudes of 2,500–5,000 m; it may also occur in desert or semi-desert habitats, but this is yet to be confirmed.

Discussion

The Chinese mountain was categorized by Nowell & Jackson (1996) as one of the five felid species most vulnerable to extinction. It is listed on Appendix II of CITES and is categorized as Vulnerable on the 2002 IUCN Red List. At the national level, it is regarded as a rare animal, categorized as a Category II species, and protected by various Chinese laws, such as the Wild Animal Protection Law and the Forestry Law. Our results confirm that this cat occurs only in China, and its present range, eastern Qinghai and northern Sichuan, seems to be a relict of its former range. Some former

records are unreliable and some confirm that populations, such as in Kangding, have become extinct. Wild populations of *F. bieti* are facing a number of threats and environmental pressures.

Firstly, hunting for pelts is one of the main threats, even after it was included in the National Wild Animal Protection List in 1988. Nowell & Jackson (1996) reported trade in the species' fur in southern China in the 1990s. During our visits to Songpan and Jiuzhaigou we found pelts, and also jackets made from *F. bieti*, for sale.

Secondly, extensive use of rodenticides is another threat. Since the 1950s large-scale poisoning campaigns have been conducted in the main range (Qinghai and Sichuan) of the species, to control populations of rodents and lagomorphs. From the 1950s to the late 1990s >208,000 ha of meadows were treated with rodenticides in Qinghai. The Chinese Government plans to control so-called rodent pests in c. 7,200,000 ha of the alpine meadows of the Tibetan plateau, such as in Qinghai, Sichuan, Gansu and Tibet, over the next 5 years. During these campaigns several rodenticides have been used, such as zinc phosphide from the 1970s to the mid-1980s, and bromadiolone, cumatetralyl, diphacinone-Na and chlorophacinone from the mid-1980s to the 1990s. Although these chemicals can reduce the density of rodents, they also cause environmental pollution and secondary poisoning of predators such as Chinese mountain cats. Although other methods of pest control have been introduced, chemical rodenticides are still being used.

Thirdly, the Government's *Western China Development* will probably involve environmental changes and alteration of natural habitats within the range of *F. bieti*.

Although three reserves have been created within the present range of *F. bieti* (Sanjiangyuan Reserve, 15,800,000 ha, and Qinghai Lake Reserve, 495,200 ha, in Qinghai, and Jiuzhaigou Reserve, 64,300 ha, in Sichuan), most of its range is not protected. In addition, poaching, rodenticide use and environmental changes continue throughout its range. In 1992 the Cat Specialist Group recommended the inclusion of *F. bieti* as a Category I species under Chinese law, but this has not yet been considered by the Chinese government. Based on our results, we also recommend moving this species to Category I of Chinese law, enforcement of its protection in reserves, and the establishment of new reserves, specifically for this species, in areas in which it is currently unprotected. Finally, although no population surveys of the species have yet been carried out, the categorization of *F. bieti* as Vulnerable (IUCN, 2002) based on criterion C2a(i), i.e. population size estimated to be <10,000 mature individuals (C), with a continuing decline in numbers (2), and with no subpopulation estimated to contain >1000 mature individuals (a(I)), appears to be appropriate. (paper is cited from:<2004 FFI, Oryx, 38(1),55-61>)

以往荒漠猫大多被记载分布于我国青海省青藏高原的东部边缘地带，在其更北部、东部和西北部也有记载。但是对有些记录的可靠性存在着不同意见，而不能肯定该物种的分布。为获取更多有关荒漠猫在中国的分布和现存状况的资料，



作者在中国的几个不同省份开展了调查，并对调查记录进行了科学评估。在所调查的 45 个标本和活体，及 189 个从当地获得的资料记录的分析结果表明，荒漠猫是中国的特有种，主要生活在山地林边缘、高山灌丛和草甸。目前仅存于青海省东部和四川省北部。野外种群数量由于偷猎、使用化学毒物及生存环境改变的压力而面临着威胁。建议将荒漠猫升级到中国 I 级保护动物，

加强在保护区内物种保护,特别是在还没有得到保护的分布区建立新的荒漠猫保护区。

中国濒危苔藓植物种类及其保护

上海师范大学 曹同 左本荣 于晶

中国是世界上苔藓植物多样性最丰富的国家之一,已报道藓类植物 67 科, 421 属, 2500 余种, 苔类和角苔类 58 科, 15 属, 960 种。在多样性方面呈现出苔藓种类丰富, 区系成分复杂, 生态类型多样, 特有属种较多等特点。因此, 保护中国苔藓植物多样性, 有重要科学和实际意义。



一、中国濒危和受威胁苔藓植物种类和现状

对濒危苔藓植物的研究及其保护越来越引起世界和中国苔藓学者的重视。国际苔藓学家学会 (IAB) 于 90 年成立了濒危苔藓植物专门委员会 (The IAB Standing Committee for Endangered Bryophytes), 并在广泛征集了世界各国苔藓学家意见的基础上, 确立公布了第一批苔藓植物红色名录, 含藓类 24 种, 苔类 26 种, 包括中国特产种中华厚边藓 (*Sciaromiopsis sinensis* (Broth.) Broth.) 和在我国有分布的角叶藻藓 (*Takakia ceratophylla* (Mitt.) Grolle) 及服部苔 (*Hattoria yakushimensis* (Horik.) Schust.)。近年来有关论文建议涉及到中国珍稀和濒危苔藓植物有 23 科 37 属 55 种 (表 1)。根据一般濒危植物物种占总数 10% 左右的统计, 我国濒危苔藓植物种类应为 200 至 250 种左右。对这些种类确定还需要做大量的深入研究。

苔藓植物物种受威胁和濒危原因可归纳为下列几个主要方面: (1) 大量原始森林植被的过渡砍伐和破坏, 使不少苔藓种类, 尤其是特产属种失去了其生存环境。特别是在集中分布我国和东亚特有属种的四川、云南、贵州等西南省区, 原始森林的严重破坏, 使有的种类不复存在或濒临灭绝。(2) 不适当的地区经济和旅游的过快发展, 破坏了某些苔藓所需要的特殊生境, 对其生存产生了极大威胁。郭水良和曹同 (1999) 对长白山保护区的苔藓植物生态学研究结果表明, 大多数苔藓植物具有较窄的生态位, 仅适应生长在特殊的小生境中。因此, 对局部小生境的破坏常常导致某种种类的消失, 在苔藓植物保护中要特别注意对特殊生境的保护。(3) 环境严重污染也威胁着苔藓植物的生存和发展。近年对东北鞍山、抚顺等城市苔藓植物与环境污染关系研究结果说明, 苔藓植物由于植物体结构简单, 对环境污染和变化特别敏感, 其种类及生长好坏常与污染距离有关。(4) 此外, 人们不重视对苔藓植物这类似乎无直接经济价值的物种多样性的保护, 加速了苔藓植物濒危程度和灭亡。即使在自然保护区内, 由于人们没有充分认识小生境对苔藓植物生存的特殊重要性, 在规划和管理中有意无意地破坏若干小生境, 常导致某些种群的消亡。

表 1 近年来有关文献涉及和建议的中国珍稀和濒危苔藓植物名录

| 种 名 | 文 献 |
|-------------------------------------|----------------|
| <i>Andreaea mamillosula</i> 疣黑藓 | 陈灵芝, 1993 |
| <i>Andreaea morrisonensis</i> 玉山黑藓 | Jia & Wu, 1998 |
| <i>Brachymenium jilinense</i> 吉林短月藓 | Cao, 1992 |
| <i>Bryoxiphium norvegicum</i> 虾藓 | 陈灵芝, 1993 |

| | |
|--|------------------|
| <i>Bryoxiphium norvegicum</i> subsp. <i>Japonicum</i> 虾藓东亚变种 | 陈灵芝, 1993 |
| <i>Buxbamia minakatae</i> 北方烟杆藓 | Cao, 1992 |
| <i>Caudalejeunea circinatum</i> 卷枝尾鳞苔 | Jia & Wu, 1998 |
| <i>Cololejeunea magnilobula</i> 粗瓣疣鳞苔 | Zhu et al, 1994 |
| <i>Cololejeunea oenata</i> 低林疣鳞苔 | Zhu et al, 1994 |
| <i>Colura acroloba</i> 刀形管叶苔 | 陈灵芝, 1993 |
| <i>Colura acutifolia</i> 尖囊管叶苔 | 陈灵芝, 1993 |
| <i>Colura ari</i> 气生管叶苔 | 陈灵芝, 1993 |
| <i>Colura corynephora</i> 异瓣管叶苔 | 陈灵芝, 1993 |
| <i>Colura inuii</i> 印氏管叶苔 | 陈灵芝, 1993 |
| <i>Colura karstenii</i> 粗管叶苔 | 陈灵芝, 1993 |
| <i>Diplasiolejeunea brachyclada</i> 短枝双鳞苔 | 陈灵芝, 1993 |
| <i>Diphasiolejeunea rudolphiana</i> 长齿双鳞苔 | 陈灵芝, 1993 |
| <i>Distichophyllum carinatum</i> 背凸黄藓 | Jia & Wu, 1998 |
| <i>Distichophyllum mittenii</i> 钝叶黄藓 | 陈灵芝, 1993 |
| <i>Distichophyllum obtusifolium</i> 钝尖黄藓 | 陈灵芝, 1993 |
| <i>Ditrichopsis gymnostoma</i> 拟牛毛藓 | Jia & Wu, 1998 |
| <i>Exodictyon blumii</i> 外网藓 | 陈灵芝, 1993 |
| <i>Foreauella orthothecia</i> 偏叶藓 | 陈灵芝, 1993 |
| <i>Gongylanthus ericetomum</i> 对叶苔 | Zhu et al., 1994 |
| <i>Gottschea philippinensis</i> 菲律宾细裂瓣苔 | Zhu et al., 1994 |
| <i>Groutiella tomentosa</i> 绒毛裸帽藓 | 陈灵芝, 1993 |
| <i>Haplomitrium blumii</i> 东亚裸蒴苔 | Zhu et al, 1994 |
| <i>Haplomitrium mnioides</i> 裸蒴苔 | Zhu et al, 1994 |
| <i>Hattoria yukushimensis</i> 服部苔 | Tan et al, 1994 |
| <i>Horikawaea nitida</i> 兜叶苔 | 陈灵芝, 1993 |
| <i>Isotachis japonica</i> 东亚直蒴苔 | Zhu et al., 1994 |
| <i>Jungermannia breviperianthia</i> 短萼叶苔 | Cao, 1992 |
| <i>Jungermannia flagellalioides</i> 鞭枝叶苔 | Zhu et al., 1994 |
| <i>Kurzia sinensis</i> 中华细枝苔 | Zhu et al., 1994 |
| <i>Marsupella fengchengensis</i> 风城钱袋苔 | Cao, 1992 |
| <i>Metzgeria liaoningensis</i> 辽宁叉苔 | Cao, 1992 |
| <i>Mitthyridium fasciculatum</i> 匍网藓 | 陈灵芝, 1993 |
| <i>Neotrichocolea bissetii</i> 新绒苔 | 陈灵芝, 1993 |
| <i>Plagiochila shanghaiica</i> 上海羽苔 | Zhu et al., 1994 |
| <i>Pleuroziagi gantea</i> 大紫萼苔 | 陈灵芝, 1993 |
| <i>Pleurozia giganteoides</i> 拟大紫萼苔 | 陈灵芝, 1993 |
| <i>Pseudopterobryum laticuspis</i> 大滇蕨藓 | Jia & Wu., 1998 |
| <i>Pseudopterobryum tenuicuspis</i> 滇蕨藓 | Jia & Wu., 1998 |
| <i>Scaphophyllum speciosum</i> 大叶苔 | Zhu et al., 1994 |
| <i>Schiffneria hyaline</i> 塔叶苔 | Zhu et al., 1994 |
| <i>Sciaromiopsis sinensis</i> 中华厚边藓 | Tan et al., 1994 |
| <i>Sinocalliergon satoi</i> 华湿藓 | Wu et al., 1997 |
| <i>Syrrhopodon armatus</i> 鞘刺网藓 | 陈灵芝, 1993 |
| <i>Syrrhopodon tijibodensis</i> 暖地网藓 | 陈灵芝, 1993 |
| <i>Takakia ceratophylla</i> 角叶藻苔 | 陈灵芝, 1993 |
| <i>Takakia lepidozoides</i> 藻苔 | 陈灵芝, 1993 |
| <i>Theriotia lorifolia</i> 厚叶藓 | Cao, 1992 |
| <i>Trichocolepsis sacculata</i> 囊绒苔 | 陈灵芝, 1993 |
| <i>Trichocolepsis tsinlingensis</i> 秦岭囊绒苔 | 陈灵芝, 1993 |

二、加强中国苔藓植物多样性研究和保护的建议

一、组织对苔藓植物关键地区及研究空白和薄弱地区的野外采集和调查，尽快全面搞清中国苔藓植物种类和分布。近年来，中国苔藓植物研究虽然有了长足进步，但从已知苔藓种类各省区分布数可以看出，部分省区尚缺乏基本调查和采集，已知数大大低于应有实际种数，特别是宁夏、甘肃、青海等西部省区，应加强调查研究。中国幅员辽阔，苔藓植物繁多，区系成分复杂，即便在物种水平上还有很大潜力，呼吁植物界同仁给予重视和支持。

二、加强对中国苔藓植物多样性的关键类群，特别是我国和东亚特有属种的研究和保护。我国苔藓植物有中国特有属 9 个，东亚特有属 31 个。应在进一步搞清其分布和生态特征的基础上，开展相应保护生物学研究，确定保护策略，必要时划定特定的保护小区。

三、把珍稀濒危苔藓植物列入中国高等植物红皮书的内容。现出版的中国高等植物红皮书仅包括蕨类和种子植物，而不包括其重要门类苔藓植物。建议先从物种多样性及分布搞得比较清楚的东北、华东、西藏等地区开始着手编写地区珍稀濒危苔藓植物名录，搞清濒危原因并进行等级划分，进而编写中国苔藓植物红色名录和红皮书。

四、采用细胞学、分子生物学等技术和方法，积极开展苔藓植物保护生物学研究，可为我国苔藓多样性的保护提供理论依据和指导。这方面在我国十分薄弱，应切实加强。建议先从若干有重要科学意义并受威胁濒临灭绝的重要类群，如藻藓、光藓、新绒苔等着手，开展苔藓植物的保护生物学工作。

Endangered bryophytes and their conservation in China

Abstract: China is one of the richest areas in the world, in terms of the biodiversity of bryophytes. There are 67 families, 421 genera, about 2,500 species of Mosses and 58 families, 151 genera and 960 species of Hepaticae and Anthoreace recorded from China. Biodiversity of bryophytes in China is characterized by rich species diversity, complex geographic elements and ecological types with certain taxa endemic to China and East Asia.

Based on the related literature, 23 families, 37 genera and 55 species are considered rare and endangered taxa of bryophytes in China. The courses of the endangered taxa are discussed. These include: (1) Some species, especially taxa endemic to China and East Asia have lost or are losing their habitats owing to damage of virgin forests; (2) Some rare species are imperiled by rapid economic and tourism developments. (3) Some bryophytes are threaded by environmental pollutions; (4) The important niches for bryophytes have not been well protected.

Finally, the suggestion for conservation of endangered bryophytes in China are



put forward, including: investigation and collections of bryophytes in some poorly studied areas; protection of the key taxa of biodiversity in Chinese bryoflora, especially of the taxa endemic to China as well as to East Asia; edition of red list of Chinese endangered bryophytes; researches on protection and conservation of endangered bryophytes by means of new biological techniques.

● 因版面所限，本栏目文章参考文献从略。如有需要，请与本刊联系。

中国兰科植物研究的回顾与前瞻

作者：陈心启 罗毅波

中国有丰富的兰科植物资源和悠久的栽培与观赏兰花的历史。在我国古代的文学艺术著作中，人们得知：早在公元前6~10世纪就有兰科植物的记载，北宋时期就有兰花画卷问世，13世纪就有兰花专著出版。近年研究表明，兰属植物在中国的栽培始于唐朝后期，大约在公元860~890年之间，而不是孔子时代。第一位给中国兰科植物以科学命名的是林奈(*Species Plantarum*, 1753)。在那以后，许多欧洲植物学家开始研究中国兰科植物，其中 R. A. Rolfe、R. Schlechter 和近代的 G. Seidenfaden 及 P. Cribb 是特别值得称颂的。他们的论著至今仍是不可或缺的参考文献。在1925年胡先骕成为第一位研究中国兰科植物的中国植物学家。紧接着，在上世纪30年代，钱崇澍、左景烈、唐进和汪发缙也开始研究兰科。此后，唐进和汪发缙坚持不懈，继续从事中国及其邻近地区兰科植物的研究达数十年之久，并发表了许多有价值的论著，为尔后中国兰科的研究打下了坚实的基础。

在初期，研究工作主要集中在对兰科植物的采集、鉴定和分类方面。继之是编研《中国植物志》(兰科)。在野外工作中采集到大量的兰科标本和拍摄到数以万计的彩色照片。在此基础上发表了许多著作和论文，包括三卷《中国植物志》(17~19卷)。

在兰科植物区系与地理方面，对一些地区与山系开展了研究，如四川、西藏、台湾、云南南部的西双版纳和横断山区等。主要成果包括：标定石上附生兰的北界和西界，它与亚热带的北界与西界大致相符；划出中国—喜马拉雅与中国—日本亚区在四川境内的分界线，称楷永线；建议台湾划入植物区系分区中的古热带区马来亚区；提出：附生兰属占该地区全部兰科总属数的50%以上者，应视为热带植物区系的标志。

我国对兰科微观形态的研究始于上个世纪80年代，大约对40属150种的兰科植物进行过细胞学、孢粉学、解剖学或生理学的研究，其中大多是我国原产植物，如石斛属(*Dendrobium*)、兰属(*Cymbidium*)、白及属(*Bletilla*)、万代兰属(*Vanda*)、独蒜兰属(*Pleione*)、杓兰属(*Cypripedium*)、舌喙兰属(*Hemipilia*)、兜被兰属(*Neottianthe*)、天麻属(*Gastrodia*)、开唇兰属(*Anoectochilus*)、鹤顶兰属(*Phaius*)和兜兰属(*Paphiopedilum*)中的一些种类。只有少数为引种的植物或杂种，主要是香荚兰属(*Vanilla*)、蝴蝶兰属(*Phalaenopsis*)、树兰属(*Epidendrum*)、卡特兰属(*Cattleya*)和文心兰属(*Oncidium*)中的一些种类。

兰花涉及重要的产业。长期以来，试管繁殖在我国受到很大的重视。在许多属中，对组织培养、种子萌发和种苗培植的试验已取得成功，诸如兰属、石斛属、开唇兰属、苞舌兰属(*Spathoglottis*)、五唇兰属(*Doritis*)、香荚兰属、蝴蝶兰属、卡特兰属和树兰属等。人工杂种也已在兜兰属、兰属、石斛属、蝴蝶兰属、鹤顶兰属和虾脊兰属(*Calanthe*)中培育成功。但许多工作主要是科研性质的，而非商业性质的。只有极少数杂种推向市场。

兰属植物是我国最受欢迎的观赏兰花。目前在大陆、台湾与香港已建有数百个国兰种植场和数目更加庞大的家庭兰园。已出版了数十部有关国兰品种的通俗著作。兰花展览会也在频繁地举办。此举虽然使数百万的兰花爱好者从中获益，但负面影响是使多种兰属植物变得极度濒危或十分稀有。

天麻(*Gastrodia elata* Bl.)作为民间药物在我国已使用了约2000年之久，今天仍然在传统中药中占据重要的地位。已对天麻进行了综合研究，包括试管繁

殖、栽培和生产等，均已取得成功。其关键是在种子萌发时加入紫萁小菇 (*Mycena osmundicola* Lange) 和在原球茎生成后加入蜜环菌 (*Armillariella mella* (Vahl. ex Franch.) Karst)。

在我国，已对兰属、石斛属、石豆兰属 (*Bulbophyllum*)、羊耳蒜属 (*Liparis*)、万代兰属、拟万代兰属 (*Vandopsis*)、毛兰属 (*Eria*) 中 44 个种进行过菌根研究。已有 13 属真菌被分离和鉴定出：Ceratorhiza、Eulorhiza、Moniliopsis、Fusarium、Mycena、Cylindrocarpon、Myceliophthoreae、Cephalosporium、Ceratorhiza、Chromosporium、Rhizoctomia、Gloiocladium 和 Pestalotina。对天麻与真菌，特别是小菇属 (*Mycena*) 与蜜环菌属 (*Armillariella*) 之间的共生萌发和生长，已有深入的研究。

中国植物学家在上世纪 90 年代开始研究兰花传粉生物学。鸟足兰属 (*Satyrium*)、舌喙兰属、独花兰属 (*Changnienia*)、槽舌兰属 (*Holcoglossum*)、杓兰属和兜兰属中的某些种被观察过，但至今仅发表过 2 篇关于舌喙兰属和独花兰属的论文。据报道，扇唇舌喙兰 (*Hemipilia flabellata* Bur. et Franch.) 是依靠欺骗以吸引访问者。它的花与唇形花科的痢止蒿 (*Ajuga forrestii* Diels) 颇为相似。后者似乎是惟一为传粉者提供辅助蜜源的植物。

近年来，我国对兰科植物的保护甚为重视，提出了总的方针，并采取措施以图改善野生种的保护。事实上，保护是一个复杂的问题，不仅取决于和教育经济的发展，相当大程度上还取决于兰科植物自身的生物学特性。需要对其生态学、居群生物学、传粉生物学、繁育生物学以及其他生物学分支学科进行研究。近年已对独花兰属、金佛山兰属、兜兰属和杓兰属中的某些种开展了研究。但是，我们依然面临的是，对植物自身情况的了解甚为贫乏或十分有限，特别是引起兰花濒危的生物学原因。

中国自上世纪 20 年代以来，对兰科植物的研究已取得了长足的进展。展望未来，主要目标应当是：在科学上进一步综合研究中国特有、亚特有类群，或是主要产于中国的类群；在商业上对有重要观赏或药用价值的种类进行应用研究。其中最重要的是：兜兰属、石斛属、杓兰属、兰属、独蒜兰属、槽舌兰属、开唇兰属以及兰亚族中的一些类群，以及从国外引进的观赏属。当然，将来需要更多的国际合作。(植物学报，2003 年增刊)



中国植物资源的可持续发展

作者：李振宇

中国是世界上生物多样性最丰富的国家之一，也是世界上人口最多的发展中国家。植物资源产业在国家的经济建设中占有重要地位。中国已知有 43 000 多种植物，其中特有属和特有种占一定的比例，形成有特色的植物资源。中国人对植物资源的利用可追溯到新石器时代，通过长期的栽培，选育出水稻、荞麦、大豆、茶、桃、柿等重要作物，创造了辉煌的农业文明。20 世纪 80 年代以来，在“回归自然”思潮的影响下，药用植物、香料植物、色素植物、甜味植物、植物性农药、植物胶、野菜、野果和野生花卉的研究和利用取得了显著进展。利用野生植物遗传资源改造作物的工作有了良好的开端。20 世纪中，由于无序开发和生境破坏，不少物种仅见于文献记载，如上海黄檀已消失了一个世纪。牡丹的野生祖

征 稿

本刊为非正式出版的不定期通讯性刊物，主要目的是为交流濒危野生动物种保护、管理、贸易等方面的信息，包括国内外有关的法律、政策、理论、研究、资源、会议、出版物等方面的动态以及部门、个人的有关建议。拟订分下述几项内容：

- 1、公约附录物种简介；
- 2、国际公约和国内法律、政策或规定的介绍；
- 3、项目、理论、成果、出版物、组织的简介；
- 4、会讯和领导讲话或指示；
- 5、物种种类、资源、养殖、培植、利用和贸易状况简报；
- 6、管理对策的通报；
- 7、有关上述内容的个人意见或看法；
- 8、物种评述；
- 9、经确认对濒危物种保护有一定贡献的企业或个人介绍；
- 10、论文摘要选登。

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