

# TRAFFIC

BULLETIN

CITES APPENDICES AMENDMENT PROPOSALS

CITES AND MEDICINAL PLANTS:  
JATAMANSI AND KUTKI

TIBETAN ANTELOPES IN PERIL

The Journal of the TRAFFIC Network disseminates information  
on the trade in wild animal and plant resources





The *TRAFFIC Bulletin* is a publication of the TRAFFIC Network, a joint programme of WWF-World Wide Fund for Nature and IUCN-The World Conservation Union. TRAFFIC works to help ensure that trade in wild plants and animals is not a threat to the conservation of nature. The *TRAFFIC Bulletin* publishes information and original papers on the subject of trade in wild animals and plants, and strives to be a source of accurate and objective information. Any opinions expressed are those of the writers and do not necessarily reflect those of TRAFFIC, WWF or IUCN.

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Cover photograph: Collector in Nepal with harvested specimen of *Jatamansi Nardostachys grandiflora* (Credit: Carsten S. Olsen)

Illustrations this page, from top:

Gyr Falcon *Falco rusticolus*;

Kutki *Picrorhiza kurroo* (Credit: TRAFFIC India);

Tibetan Antelope *Pantholops hodgsonii*  
(Credit: G. Schaller)



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# TRAFFIC

## BULLETIN

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## 151 Parties to CITES

Grenada, Ukraine, Iceland, Kazakhstan, Slovenia and Croatia have joined CITES, bringing to 151 the total number of Parties to the Convention. Their accessions entered or are to enter into force on 28 November 1999, 29 March 2000, 2 April, 19 April, 23 April and 12 June 2000, respectively.

Iceland entered a number of reservations to the CITES listings. These are for Minke Whale *Balaenoptera acutorostrata* (Appendix I/II), Sei Whale *B. borealis* (I), Blue Whale *B. musculus* (I), Fin Whale *B. physalus* (I), Humpback Whale *Megaptera novaeangliae* (I), Bottlehead *Hyperoodon ampullatus* (I), Sperm Whale *Physeter macrocephalus* (I), Long-finned Pilot Whale *Globicephala melas* (II), Killer Whale *Orcinus orca* (II), Atlantic White-sided Dolphin *Lagenorhynchus acutus* (II), White-beaked Dolphin *L. albirostris* (II), Harbour Porpoise *Phocoena phocoena* (II), Common Dolphin *Delphinus delphis* (II) and Bottle-nosed Dolphin *Tursiops truncatus* (II).

CITES Secretariat, 24 September 1999; <http://www.cites.org>

## Building CITES Capacity Through Collaboration

The level of effective implementation and enforcement of CITES within regions and countries varies considerably. Surprisingly, this is not always linked to the wealth of the region or nation involved. Parties have always needed assistance to enable them to perform these functions adequately, or more effectively. Almost since CITES was first established, UNEP's CITES Secretariat and the TRAFFIC Network have collaborated closely but have never formally undertaken a capacity building programme that directly links them. On 2 November 1999, however, such collaboration was put on a formal footing with the signing of a Memorandum of Understanding (MoU) between the Secretary-General of the CITES Secretariat, Willem Wijnstekers and TRAFFIC International Executive Director, Steven Broad.

The agreement was founded on the realization of the similarity of the capacity building objectives of the two organizations and their complementary roles over the past 25 years. The MoU sets up procedures for collaboration through a series of stages, to achieve the overall goals of raising CITES implementation and enforcement capacity at regional and national levels. The demand for such support to the Parties is overwhelming but this can now be approached more efficiently through effective prioritizing, fundraising, training, networking and evaluation - without duplication of effort. >



TRAFFIC's Executive Director Steven Broad (left) and Willem Wijnstekers, Secretary-General of the CITES Secretariat, signing the capacity-building MoU.

Photograph: TRAFFIC / C. Allan

> TRAFFIC offices are now designated CITES Capacity Building Collaboration Centres (CBCC) and will work with the CITES Secretariat on capacity building activities at regional and sub-regional levels, where it is felt that the activities are mutually agreeable and where funds can be acquired. The CITES Secretariat plans to establish other CBCCs with selected partners. The joint programmes could include training seminars and workshops, development of awareness materials, translation of training materials into local languages, and the inclusion of CITES-related issues in the agendas of regional environmental meetings.

Recent collaborations between the CITES Secretariat and TRAFFIC on capacity building have included a Regional CITES Enforcement Seminar in Hong Kong (see page 49), a CITES Implementation Training Seminar in South Korea and a Needs Assessment Review of the Small Island Developing States in the South Pacific. TRAFFIC International is also undertaking a revision of CITES implementation training materials produced by the CITES Secretariat, as well as providing a detailed CITES training manual as a standard tool for training seminars.

The MoU is more than just a paper agreement; already the ideas contained within it are being translated into action, with promising results. The challenge now will be in trying to meet the expectations that this MoU may raise among the Parties. These expectations can be achieved with adequate funding and the political will to enable CITES capacity to be developed regionally and nationally.

Crawford Allan,  
Global Enforcement Assistance Co-ordinator,  
TRAFFIC International

bulletin board

The regional office of TRAFFIC East/Southern Africa has relocated to Zimbabwe with effect from March 2000.

Text of this issue of the *TRAFFIC Bulletin* is available on  
<http://www.traffic.org>.

WWF Italy/TRAFFIC Europe-Italy Press Release;  
J. Thomson, TRAFFIC North America-Canada



ester B. Pearson International Airport.

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## Learning the Letter of the Law in East Asia

**Regional CITES Enforcement Training Seminar, Hong Kong, China, 6-10 December, 1999**

The CITES Secretariat can boast yet another successful training seminar for the East Asian region, this time on CITES enforcement specifically. Twelve countries were represented by law enforcement officials responsible for CITES regulation, with over 60 delegates in attendance. The funding source and host for the event was the Hong Kong Agriculture and Fisheries Department (AFD), which is the CITES Management Authority for this Special Administrative Region of China.

The programme of training sessions ran over five days, and called on the expertise of the CITES Secretariat and that of H.M. Customs and Excise-UK, the Wildlife Enforcement Group-New Zealand and TRAFFIC International to formulate and undertake the training. Presentations by the countries of the region, TRAFFIC East Asia and TRAFFIC Southeast Asia, and some enforcers from outside the region, enabled a thorough picture of the key enforcement issues to emerge.

This was the first capacity-building collaboration between TRAFFIC and the CITES Secretariat since the signing of a Memorandum of Understanding, in November 1999, to formally recognize and promote such co-operation between the two bodies (see page 47). The programme comprised a series of intense tutorials, broken up with various practical exercises. The AFD CITES enforcement work was illustrated through a presentation of its collection of live and derivative CITES specimens which had been seized in recent years, such as a large consignment of shahtoosh shawls in 1998 (illustrated). A field trip afforded an opportunity for more informal exchange of information on personal work experiences, and provided an insight into the work of the AFD.

There is no doubt about the value of such a seminar, for the delegates and trainers alike. It established and built on a good foundation for future collaboration and more effective CITES law enforcement. In this regard, it is vital to bring together countries within a region to share problems, learn from each other and develop a common vision through well-developed training programmes. While there is always so much to learn in a short time, it is important to ensure that certain key messages are remembered and taken away by the delegates than just the detailed training materials that are provided.

This was the second CITES enforcement seminar in the region in the last five years and illustrates an effective means to maintain contacts, allow existing staff members to review their knowledge, train new staff, and introduce new developments in CITES enforcement. The initiation or continuation of similar enforcement training programmes in other regions is highly recommended for the healthy functioning of CITES law enforcement worldwide.

*Crawford Allan, Global Enforcement Assistance Co-ordinator, TRAFFIC International*



**Rob Parry-Jones, Programme Officer at TRAFFIC East Asia, presents CITES enforcement officials with an overview of illegal wildlife trade in the region; below, delegates from South Korea, Thailand and Macao examine a large seizure of shahtoosh shawls.**

*Photographs: TRAFFIC/C. Allan*



## UK United to Fight Wildlife Crime

On 16 February 2000, the Environment Minister, Michael Meacher, announced that the UK would establish a national unit to help combat wildlife crime. The National Wildlife Crime Unit is to comprise staff from several separate agencies and act as the national co-ordinating centre for gathering, analysis and dissemination of intelligence information. The focus of the unit will be to combat crime in relation to species of greatest conservation concern, mainly CITES trade issues and rare native species. The UK Department of the Environment, Transport and the Regions has allocated nearly half a million pounds (USD785 000) over three years to fund the unit. The initiative came about as a response to the need for closer co-operation at a national level to overcome problems of duplication of effort, poor co-ordination and territoriality with respect to intelligence gathering. The effectiveness of similar units in other countries has shown that sharing the resources and powers of several agencies to tackle the issue of wildlife crime, produces rapid results and overcomes past difficulties.

*Crawford Allan, Global Enforcement Assistance Co-ordinator, TRAFFIC International*



## Japan Improves Control of Domestic Tiger Trade



Illustration courtesy of Roland Hübner

The Tiger *Panthera tigris* is listed in CITES Appendix I, placing it under the highest degree of international trade control. In recognition of the Tiger's highly endangered status and the threat posed by illegal trade, the Conference of the Parties to CITES in 1997 passed Resolution Conf. 9.13 (Rev. 1997) urging all Parties to consider introducing measures to facilitate implementation of CITES, such as voluntarily prohibiting domestic trade in Tiger parts and derivatives.

On 15 February 1999, coinciding with the last day of the Year of the Tiger in the Chinese lunar calendar, TRAFFIC East Asia-Japan and WWF Japan released a report documenting the results of market surveys conducted in Japan between October 1998 and January 1999. The report concluded that the legal regulations governing the sale of Tiger-derived products and Tiger parts in Japan made it impossible to distinguish between legal and illegal products on the domestic market. The findings highlighted certain inadequacies in the definitions of products or derivatives covered by the *Law for the Conservation of Endangered Species of Wild Fauna and Flora* (LCES) which affected only Tiger hair, fur (skin), teeth, claws and products derived from these four substances; products such as Tiger bone wine and "vitality" potions containing Tiger-derived ingredients, considered nutritional supplements and not strictly classified as pharmaceutical products, were not regulated. TRAFFIC suggested that all products containing or claiming to contain derivatives of Tiger parts should be classified as "organs" and "processed substances" subject to regulation under the LCES.

On 20 December 1999, the Japanese Government's Environment Agency announced that it would amend the LCES with respect to the regulation of domestic trade in Tiger parts and derivatives. With effect from April 2000, Tiger bone, the reproductive organs of male Tigers, and products derived from these ingredients and intended for human consumption (including external application) will be added to the list of controlled substances. The amend-

ment falls short of TRAFFIC East Asia's earlier recommendations, but does serve to close several potential loopholes in Japan's regulation of domestic trade in Tiger parts and derivatives.

The Japanese Government is reviewing whether or not to include in the amendment Tiger bone or penis "not for consumption" (for display purposes, for example). In addition, the Environment Agency of the Japanese Government has stated that the new amendment will provide a basis for enforcement action merely on the grounds of product labelling. However, if a trader claims that a product does not contain Tiger bone, the burden of proving genuine Tiger contents, despite labelling to the contrary, will still rest with the government. This is often not possible, even using advanced forensic techniques.

Japan's announced amendment is an important step forward. TRAFFIC East Asia-Japan and WWF Japan will continue to monitor Japan's domestic market for Tiger products and derivatives and will promote public awareness efforts designed to reach consumers and the general public.

TRAFFIC East Asia

## TRAFFIC and TCM

TRAFFIC staff joined over 100 international delegates in Beijing, China, from 30 October to 1 November 1999, for a conference on traditional Chinese medicine (TCM) and wildlife conservation. Organized by WWF, the American College of Traditional Chinese Medicine (ACTCM), and the State Administration of Traditional Chinese Medicine (SATCM) of the People's Republic of China, the conference identified the need in China for in-depth workshops on the use of endangered species in TCM and its relevance to wildlife conservation as well as nationwide publicity on endangered species' conservation. Building on this momentum, TRAFFIC, SATCM and the WWF China Programme Office met recently to develop a preliminary proposal to deliver a series of educational workshops for TCM academics, industry and government officials in China. In addition to helping co-ordinate these efforts, TRAFFIC staff will lead in the development of the accompanying workshop materials, which ultimately will be incorporated into the educational curriculum for students of TCM in China. This initiative complements TRAFFIC's existing and proposed work on TCM including global outreach to the TCM communities and regulation of Chinese medicines.

J. Thomson, TRAFFIC North America-Canada



## Dispensing TCM in Germany

Traditional Oriental Medicine (TOM), of which Traditional Chinese Medicine (TCM) forms a large component, uses more than 7000 different plants and animals (Lambert *et al.*, 1997). A considerable number of these species are threatened with extinction, and yet only a small proportion are protected by international and national laws. The potential impact of TOM on species conservation becomes evident when considering that one third of the world's population uses TOM for its basic healthcare.

Research into the socio-economic structures of Asian communities in Germany and TCM practice by these groups was initiated by TRAFFIC Europe in October 1999. The investigation identified two consumer groups: one composed of Asians living in Germany - traditional users of TCM who buy their medicines in Asian specialty shops or import them from overseas; some of these products contain or claim to contain ingredients like Tiger *Panthera tigris* bone, bear *Ursus* spp. gall bladder or Saiga Antelope *Saiga tatarica* horn. The other consumer group consists of Germans and other Europeans living in Germany who are becoming more interested in TCM (Brunnert, 2000).

**Traditional users:** According to recent population figures, almost 800 000<sup>1</sup> Asians live in Germany with the majority of potential TCM users being of Vietnamese or Chinese origin. There are approximately 85 000 Vietnamese, and 45 000 mainland Chinese and Taiwanese resident in Germany; another estimated 28 000 people are of Chinese origin but carry passports from other countries (Anon., 1998).

As a first step, TRAFFIC's investigation will involve contact with members of the Chinese communities in Germany, with communication conducted in their own languages, to establish the extent and nature of the use of TCM. Already senior personnel at Chinese and German-Chinese organizations and editors of Chinese-language newspapers in Germany and Europe have been contacted and articles compiled by TRAFFIC relating to TCM and species conservation will be published in spring 2000 in the Chinese-language European newspapers *Xingdao Ribao* (Sing Tao Daily) and *Ouzhou Ribao* (Europe Journal). The co-operation of a Chinese student organization (the German Chinese Friendship Association), and a number of large Chinese companies is being sought.

**TCM prescribers:** More than 20 organizations in Germany teach TCM, mainly to German medical practitioners. The largest TCM association claims to have over 10 000 members. Twelve major distributors of Chinese drugs and patented medicines in Germany import their products from Hong Kong and China or obtain them from one of the few large European importers.

German practitioners contacted claimed not to prescribe patented Tiger bone, musk gland or bear bile products. The larger organizations place notices on their internet homepages stating that they take special care not to use any parts of protected plants or animals (Anon., 2000).

The *Pharmacopoeia of China*, which has been translated into German, contains descriptions of the 200 most-used plants in TCM, and lists, among other medicinal plants, *Saussurea lappa* (CITES Appendix I), and orchid species like *Gastrodia elata* and *Dendrobium nobile* (both Appendix II species). Many of the TCM practitioners interviewed, however, were unaware of these CITES listings or of an EU import ban for certain species under EU regulation 338/97.

The same is true of the German distributors of Chinese patented medicines and dried plants, all of whom sell the 200 plants that are listed in the *pharmacopoeia*. One of those interviewed knew about the protected status of some of the plants in his inventory, but expressed assurances that his supplier imports only legal products; however, he was not aware of his responsibility to check the origins of these plants.

### Good prognosis for future co-operation:

Although awareness about wildlife conservation issues among German practitioners and distributors of TCM who were interviewed is poor, most seemed to be interested in obtaining more information about the protection status of plants and appeared willing to take action to support the protection and/or wise use of threatened species. Future projects under discussion by TRAFFIC Europe include:

- insertion of information in the *Pharmacopoeia of China* on the status of endangered plants and on user-responsibility;
- creating a manual for TCM practitioners in Europe which contains information on endangered plants and animals;
- co-operation with TCM associations with regard to the content of their training courses.

As both target groups interviewed were amenable to involvement in projects relating to species conservation issues, it should not be too difficult to develop more effective projects to increase co-operation among importers, practitioners, distributors, users and conservationists.



"Chinese (Traditional) Herbal Medicine", courtesy of Wang Ning

<sup>1</sup>includes all persons originating from Asia including former Soviet Central Asian republics, but excluding those from Turkey and the Russian Federation

## REFERENCES

- Anon. (1998). Statistisches Bundesamt (ed.). *Ausländische Bevölkerung nach ausgewählten Staatsangehörigkeiten und Bundesländern*. 31 December.
- Anon. (2000). AG für Klassische Akupunktur und TCM e.V (ed.), [www.Naturheilkunde-online.de/agtcm/Zhongyao.html](http://www.Naturheilkunde-online.de/agtcm/Zhongyao.html). January.
- Brunnert, M. (2000). Alte chinesische Medizin möchte Therapiechancen ergänzen. *Frankfurter Rundschau*. 14 January.
- Lambert, J., Srivastava, J., and Vietmeyer, N. (1997). Medicinal plants - rescuing a global heritage. World Bank Technical Paper No. 355. p.29. Washington, DC., USA.

Susanne Honnef, TRAFFIC Europe-Germany/WWF-Germany

## Cultivating Support of Medicinal Plant Stakeholders

Since 1998, TRAFFIC has been researching the utilization of medicinal plants in India under a special project aimed at securing the future of medicinal plant resources in the Indian subcontinent.

During the course of this project, TRAFFIC India has completed market surveys in north and central India, is examining regulatory mechanisms relating to medicinal plants and working on a medicinal plant cultivation source book of India which will contain a list of organizations (and their activities) associated with medicinal plant cultivation research, development of agrotechnology, nurseries, planting materials, plantations, and other related subjects.

To promote the wise use of medicinal plants, it has also organized meetings, in December 1998, for the representatives of all the important stakeholders, and in July 1999, for practitioners of Indian medicine systems, which are largely plant based.

On 6 to 7 December 1999, a Medicinal Plants Trading Communities Meeting for traders, exporters, importers, cultivators and co-operatives was organized at the Secretariat of WWF India to involve them in sustainable use of medicinal plants. A total of 45 delegates from all over India took part in the meeting. The primary objective was to create awareness amongst the trading communities of the current status of medicinal plants in the wild, and to promote standardization, modernization and better practices amongst them. Within these latter three categories, the following points were put forward during a working group discussion for consideration and action:

### Modernization:

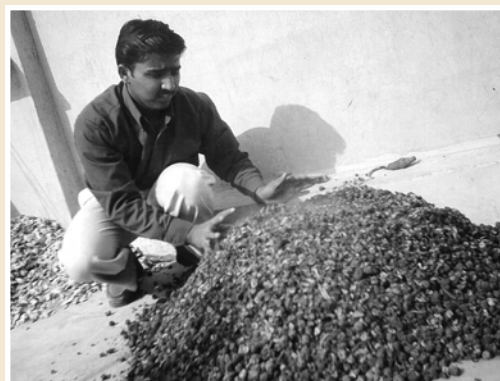
To provide quality service, it was agreed that packaging and delivery schedules need to be improved, and investment made in new tools and information technology. It was recognized that education material relating to medicinal plant identification, use, cultivation and processing should be made more widely available. Herbs should be tested for purity by practitioners and industry at the time of purchase. Research should focus on cultivation technologies and training provided on the best cultivation methods, encompassing post-harvest technology and scientific storage methods.

### Standardization:

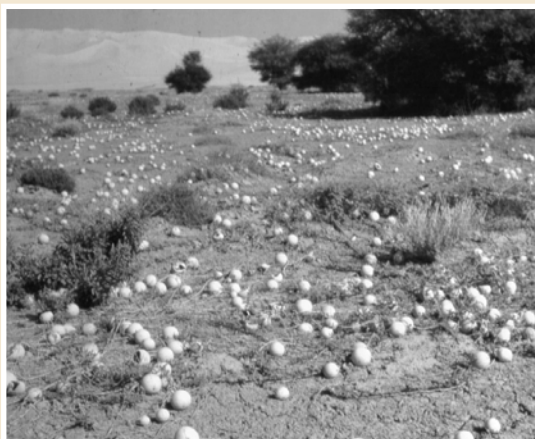
It was recognized that industry needs to keep to well-defined and implementable specifications in order to promote standardization. This should be achieved through the ability and willingness to pay premium prices for quality supplies. The

One of the points put forward for consideration at the meeting was the need to avoid harmful harvesting practices. An example given of a species that has suffered in this way in the State of Madhya Pradesh is Amla, or the Indian Gooseberry *Phyllanthus* [= *Emblica*] *officinalis*. This tree occurs in the dry deciduous forests of tropical India. Its fruit is valued for its rich source of Vitamin C and is used extensively in all the Indian medicine systems, including Ayurved. It forms a major constituent of one of the most popular Ayurvedic health tonics - Chyavanprash - which is manufactured in very large quantities by all the major phyto-pharmaceutical companies in India.

Until recently, Amla was commonly available in Madhya Pradesh and freely collected in the forests by villagers, usually by plucking the fruits from the trees. However, sometimes collectors will lop off the tree's branches or even fell the tree to gain access to the fruit. The result has been that Amla has been declared by Madhya Pradesh forest department as being endangered in that State. Regulations governing the transportation of harvested material of this species is currently under consideration by the State Government.



Dried fruits of Amla *Phyllanthus officinalis* on sale in Delhi.  
Photograph by Janak Rawal



WWF/John Newby

### *Citrullus colocynthis*

This species is one of five rare, medicinal plants which could soon be cultivated on a commercial basis, following a pledge from one participant at the meeting, a cultivation researcher.

*Citrullus colocynthis*, or Bitter Apple, is an annual or perennial herb with a prostrate or climbing stem. It bears smooth spherical fruits which are mottled green when young and somewhat yellow when ripe. The dried pulp of the unripe but fully grown fruit, freed from the rind and seeds, constitutes the drug *Colocynth* in commerce. The active principle of *Colocynth* includes a bitter amorphous alkaloid and a resin, both of which have a violent purgative action. The roots are used in treatments for jaundice, urinary diseases and rheumatism and oil extracted from the seeds is used to treat snake bites, scorpion stings, bowel complaints, epilepsy, and for promoting hair growth and to blacken grey hair.

TRAFFIC India; Nadkarni, K.M. (ed.) (1998). *Indian Plants and Drugs with their Medical Properties and Uses*. Asiatic Publishing House, Delhi, India.

standards of product safety and efficacy should meet the requirements of the major global markets. It should become obligatory for medium- and large-sized trading companies to state the origin and quality of their raw material.

### Better Practices

Timely payment, correct measurements, controls on price speculation, adulteration checks, quality control and promotion of organic farming were among the points raised to improve practices among medicinal plant stakeholders.

Most heartening were the impromptu pledges of commitment made by key participants at the meeting. These included:

- the Conservator of Forest, in Madhya Pradesh, indicated that he would prepare a draft State Policy for the sustainable use of medicinal plants, within six months.
- the Dabur Research Foundation, Uttar Pradesh, pledged to publish a booklet on good practices for post-harvest handling of key medicinal plants.
- a cultivation researcher from Rajasthan, promised to develop cultivation technology and to promote the commercial cultivation of five rare medicinal plant species of the Thar desert: *Blepharis edulis*, *Aristolochia indica*, *Citrullus colocynthis*, *Cymbopogon jwarancusa* and *Evolvulus alsinoides* (see box, left).
- an expert from Uttar Pradesh volunteered to collect, collate and share information on the cultivation of medicinal plants in the Kumaon region of the Uttar Pradesh hills.
- a trader from Delhi pledged to desist from dealing in herbs that have been mixed (adulterated) with other herbs.
- an exporter from Mumbai will strive to export only quality goods and be proud to label them as products of India.

Current research into medicinal plant use carried out by TRAFFIC India forms part of a TRAFFIC Network-wide project funded by the BMZ (Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung) under an umbrella contract with WWF International. TRAFFIC India is now recognized as an important stakeholder working for conservation of medicinal plants, thanks to various activities being carried out under the project.

TRAFFIC India



## Campaigns to End Trade in Shahtoosh

**India:** Efforts to stop the trade in Tibetan Antelope *Pantholops hodgsonii* wool - or 'shahtoosh' as it is widely known - are accelerating as populations of this CITES Appendix I-listed species decline.

Several TRAFFIC offices have carried out activities to highlight this issue. On 21 October 1999, TRAFFIC India launched a campaign at a high profile function held at the WWF India Secretariat. The Chief Minister of Delhi, Mrs Sheila Dikshit, pledged to support the campaign fully in order to rid all traces of such trade in Delhi, which is the largest consumer centre for shahtoosh items in India. Other prominent personalities who attended the function and endorsed the campaign included Maneka Gandhi, a Minister in the union cabinet of the Government of India, Lady Catherine Young, wife of the UK High Commissioner to India, Dato Choo Siew Kioh, High Commissioner of Malaysia to India, and J.J. Vallaya, a leading fashion designer.

An advertisement placed in a national newspaper drew attention to the illegality of trading in shahtoosh and sought information relating to illegal possession or trade of this commodity. As a result, on 27 November 1999, an anonymous caller informed TRAFFIC India of a high profile and exclusive auction in a Delhi hotel where a grey shahtoosh shawl was being offered at a minimum price range of between INR200 000-250 000 (USD4600-5750). TRAFFIC India facilitated the seizure of the item the following day and the arrest of the owner of the shawl and of the organiser of the auction through enforcement collaboration between wildlife authorities and Customs (see page 74). The seizure made national and international news and drew further attention to the central message of TRAFFIC's campaign. More recently, on 5 March 2000, 49 shawls (consisting of both pure shahtoosh and mixed wools) were seized by wildlife officials from a locality in New Delhi in an operation assisted by TRAFFIC India. Three persons of Kashmiri origin were arrested. A search of the suspects' premises has provided officials with important details relating to their *modus operandi* and leads to other operators and contacts.

WWF India and TRAFFIC India have since been inundated with enquiries from people seeking advice on how to declare their personal shahtoosh goods; these requests have been directed to the office of the Chief Wildlife Warden of Delhi, who alone is competent to deal with such enquiries. Following the launch of the campaign, the government office released advertisements in national daily newspapers urging people not to wear shahtoosh items under the headline "Don't Wear Death".

In addition to this seizure, the campaign has been successfully marked by over 50 media reports and several television interviews. TRAFFIC has also presented the message of the campaign at the National Institute of Fashion Technology (NIFT) in Delhi, at the

India International Trade Fair, 1999, and at high profile social gatherings at the residence of the UK High Commissioner to India.

Two TRAFFIC documents providing a background to the trade in Tibetan Antelopes are available from TRAFFIC East Asia and TRAFFIC India<sup>1</sup>.

TRAFFIC India is grateful to the Rufford Foundation for supporting their research into the trade in shahtoosh which led to the campaign.

**China:** In an effort to protect the Tibetan Antelope from poachers, the Hoh Xil Nature Reserve, an area spanning parts of Qinghai Province, and the Xinjiang Uygur and Tibet autonomous regions, was closed on 1 January 2000 and, on 6 February, the province of Qinghai launched an anti-poaching drive.

Between December 1999 and 19 February 2000 some 1539 Tibetan Antelope skins are reported to have been seized in the province of Qinghai, together with rifles, ammunition and vehicles. According to Ming Ruixi, an official from the Forestry Police Bureau in Qinghai Province, Tibetan Antelope pelts are at their best in the winter months, a factor that has led to the recent widespread poaching. He also notes that, rather than travelling directly into Tibet with their cargo, poachers are now taking a detour via the provinces of Gansu and Sichuan, before travelling on to Tibet and India.

*TRAFFIC India; Tibetan Plateau Project;  
Xinhua News Agency*

## Time Running Out for Shahtoosh Smugglers

### DNA Testing of Shahtoosh and Pashmina

It is important for the purposes of law enforcement and conservation assessment to be able to identify conclusively the wool of the Tibetan Antelope, or Chiru, from alternative fibres in trade. In recent years this has been carried out using methods developed by the Forensic Laboratory of the US Fish and Wildlife Service which make it possible to identify and differentiate between wool from this species and the very fine pashmina wool produced from the domestic goat *Capra hircus*. This test has been used as evidence in a number of court cases relating to illegal trade in shahtoosh with some success, but has been admissible only with the originator of the test being present to give evidence.

The UK Forensic Science Service (FSS) is in the process of developing a rapid DNA test that will unambiguously determine whether wool originates from Tibetan Antelopes, goat *Capra hircus*, or is a blend of

the two. It has isolated DNA from authenticated hair samples from each species and from this DNA the Service has been able to identify regions of the DNA code which vary between the two. A technique known as the Polymerase Chain Reaction (PCR) is used to replicate these regions and the accumulation of copies of Tibetan Antelope DNA, relative to goat DNA, indicates the composition of the wool. If published sequence information for other *Capra* species is correct, the procedure will also work with other goat species and the FSS is currently seeking samples to confirm this.

Very little material is required for the test to succeed: a single "guard" hair (any of the coarse hairs that form the outer fur in certain mammals, rising above the underwool), or a few strands of the finest underwool, is sufficient to provide enough DNA. Currently, the test can determine the species of origin of untreated hairs in less than three hours and several samples can be tested in parallel. Further developments are under way but it is likely that natural undyed shawls will be as amenable to testing as the raw wool.

Research using samples taken from dyed shawls, however, suggests that certain dyeing processes may destroy the DNA. To evaluate the validity of these assessments it is necessary to determine the types of dyes typically used for colouring shahtoosh and pashmina. In order that the FSS can develop a method for isolating and replicating DNA from the widest possible range of shawls in trade, it is seeking information on the types of dyes and dyeing processes used, as well as samples of shahtoosh and pashmina treated with different dyes and chemicals. As the FSS is a registered scientific institution under CITES, applications for CITES permits to cover samples sent internationally should be relatively straightforward.

The application of this test for law enforcement is evident as DNA testing is so broadly accepted in courts of law as a definitive method that can be applied by any number of laboratories. Forensic scientists could routinely and rapidly run the test without the involvement of personal opinion or adjudication as part of the procedure, and without the need for any particular specialist

training in the method used: PCR techniques are standard for the majority of laboratories worldwide.

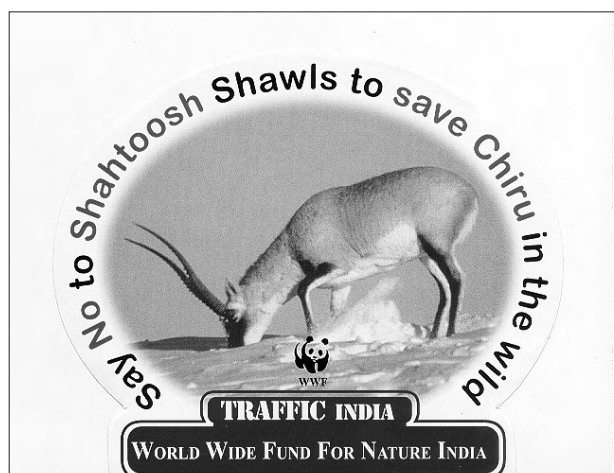
The FSS is a national UK Government agency, which typically deals with criminal forensic and DNA work, such as human DNA profiling. For the past two and a half years the FSS has formalized its research and development operations to help combat wildlife crime and has a specialist unit working on a number of projects such as this. The research programme is undertaken in co-operation with the UK Partnership for Action against Wildlife Crime and its DNA and Forensic Analysis Working Group.

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## Recommendations for Action to Conserve Tibetan Antelopes

An international workshop on the Conservation of and Trade in Tibetan Antelope was held in Xining, China, from 12 to 14 October, in an effort to promote international co-operation to save endangered wild populations of Tibetan Antelope. The workshop discussed technical issues such as the illegal transit, manufacturing and consumption of shahtoosh and the products made from it, and made an international call for action to assist in conserving the species and combating illicit trade in related products. The text of the Xining Declaration and the Recommendations for Action adopted at the workshop has been provided by the CITES Secretariat and is reproduced in full on pages 78-82.

Sourced from CITES Secretariat Notification to the Parties  
No. 1999/98, 29 December 1999



### <sup>1</sup>*Fashion Statement Spells Death for Tibetan Antelope*

Booklet produced by and available from TRAFFIC East Asia and TRAFFIC India. 12 pp.

### *Shawls of Shame: The Shahtoosh Connection*

Booklet produced by and available from TRAFFIC India. 12 pp.

Both publications provide a brief history of the trade in shahtoosh and support the need for international efforts to stop commerce in this commodity.

## Tackling Toothfish Extraction

Mounting evidence of illegal, unreported and unregulated (IUU) fishing in the Southern Ocean has forced the hand of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) in the consideration of trade-based measures to halt the plunder of these seas. Over the past three years, it is estimated that IUU fishing for toothfish *Dissostichus* spp. in the Southern Ocean has been in the order of 90 000 t, more than twice the level of toothfish catches taken in CCAMLR-regulated fisheries. This rate of extraction is unsustainable and has led to a significant and alarming depletion of toothfish stocks in some areas.

After a year of intense negotiations, CCAMLR agreed to the implementation of a Catch Documentation Scheme (CDS) for toothfish, on 4 November 1999. The stated objectives of the scheme are as follows:

- to monitor the international trade in toothfish;
- to identify the origins of toothfish imported into or exported from the territories of CCAMLR Contracting Parties;
- to determine whether toothfish catches in the CCAMLR Area are conducted in a manner consistent with CCAMLR Conservation Measures;
- to gather catch data for the scientific evaluation of the stocks.

The CDS is specified as CCAMLR Conservation Measure 170/XVIII and was adopted by the Commission together with an Explanatory Memorandum on the Introduction of the CDS and a more general statement of the Commission's "Policy to enhance co-operation between CCAMLR and non-Contracting Parties". Generally stated, the CDS is a certification system that prevents the landing of toothfish at Contracting Party ports, or the transshipment to Contracting Party vessels, by both Contracting and non-Contracting Party fishing vessels, unless the load is accompanied by a valid CCAMLR Catch Document.

The validity of a document is dependent upon several checks by the individuals and States involved:

- the vessel master is required to certify the origins of the catch and if it has come from CCAMLR waters, and whether it was caught in a manner consistent with CCAMLR requirements;
- the flag State is required to certify whether the catch was consistent with the vessel's authorization to fish; and the exporting State is required to validate the accuracy of the information.

In the event of re-exports, the importing State must examine the relevant documentation and all States are called upon to resolve any queries that may arise. Copies of forms must be provided to the CCAMLR Secretariat for analysis and centralized recording of validated forms. This information will be available to all Parties, subject to confidentiality procedures.

The CDS tackles the problems associated with the use of 'flags of convenience' and seeks to avoid discrimination between products on the basis of CCAMLR membership by inviting non-Contracting Parties to participate in the scheme. To do so, flag States will need to ensure that their vessels are provided with *Dissostichus* Catch Documents for presentation to Contracting Party authorities as required.

The scheme is to commence on 4 May 2000, but Parties are urged to implement it earlier if possible.

The TRAFFIC Network is currently undertaking a global review of the trade in all species of toothfish. A report will be produced and published mid-2000.

*Dean Bialek, Toothfish Project Officer,  
TRAFFIC Oceania*

## Australia's CITES Law Under Review

Comprehensive new Australian environmental legislation has been passed to consolidate the nation's environmental and wildlife legislation. The new *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act 1999), which will be enacted on 16 July 2000, aims to unify and expand existing environmental legislation, and in particular to strengthen provisions dealing with impacts on areas of national significance and threatened species.

The *Wildlife Protection (Regulation of Exports and Imports) Act 1982*, the law that addresses Australia's international obligations under CITES, has recently been reviewed during the process of its incorporation into the new EPBC Act 1999, and this review is scheduled to be addressed by the Australian Senate later this year.

TRAFFIC Oceania has forwarded comments emphasizing the need to ensure that requirements for ecological sustainability and Australia's international obligations are met. The critical elements for ecological sustainability stressed by TRAFFIC Oceania involved ensuring that sufficient information, adaptive management planning, monitoring systems and adequate enforcement would be incorporated into the management of Australia's wildlife trade.

*Jonathan Vea, TRAFFIC Oceania*



## The Third International Symposium on Trade in Bear Parts

The Third International Symposium on Trade in Bear Parts took place in Seoul, South Korea, from 26 to 28 October 1999. More than 100 participants from disparate professions and cultures came together to discuss the impact of trade in bear parts on the status of bears worldwide. Seoul was chosen as the venue because Koreans are among the most avid users of bear bile as medicine and as a health tonic. The symposium was organized by TRAFFIC East Asia, the Ministry of Environment of the Republic of Korea, and the IUCN/SSC Bear Specialist Group.

The conservation status of bears in Asia was a major focus of the symposium. All five bear species occurring in Asia - the Sun Bear *Helarctos malayanus*, Sloth Bear *Ursus ursinus*, Asiatic Black Bear *Ursus thibetanus*, Brown Bear *Ursus arctos* and Giant Panda *Ailuropoda melanoleuca* - are threatened by a combination of shrinking habitats, resulting fragmented populations and increasing human-animal conflicts, including poaching. Only 50 000 individual bears are thought to be left in the wild in Asia, from India, through China, and into the countries of Southeast Asia.

### Asian trade in bear parts for medicinal purposes

While much of the global trade in bear parts is believed to be for trophy and medicinal use, it was the use of bear gall bladder in Asia as medicine that was highlighted at the symposium. The focal message conveyed by delegates was that Asian bear species remain in serious trouble in the wild owing to the threat posed by the demand for gall bladders, and that all sides - including traditional medicine communities - wish to work together to solve these problems and conserve bears in the wild.

With the exception of the Giant Panda, bears are the only mammals that produce significant amounts of the bile acid tauro ursodeoxycholic acid (UDCA), enabling a distinction to be made between bear gall bladders and those from other animals. It is this chemical that is used in the treatment of a variety of ailments, from inflammation to bacterial infections.

In China, it was reported that bear farms currently produce some 6000 kg of bear bile annually, which is more than the entire country consumes. Some participants questioned whether this oversupply was helping wild bears or creating more users of bear bile. A spokesman for Korea's traditional medicine community said that 50 kg of bear bile is "quite sufficient" to satisfy South Korea's purely medicinal needs each year. "There is a tendency to misuse bear bile due to its reputation as a health enhancer", said Lee Yong Jong of the Associa-

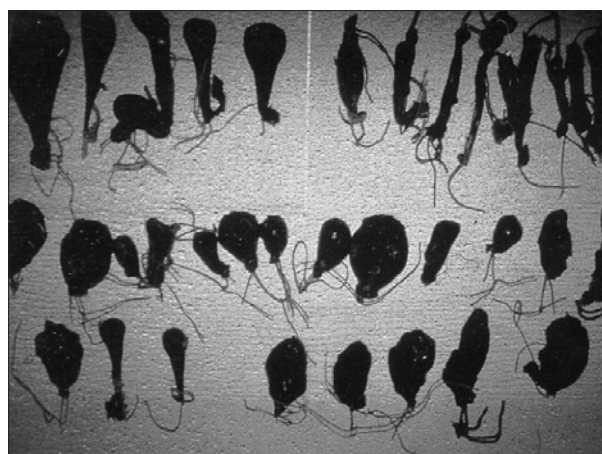
tion of Korean Oriental Medicine. Another speaker, Scarlet Pong, representative of two herbalist associations in Hong Kong, suggested that bear bile is merely one of thousands of medicinal materials in traditional Chinese medicine, and surely not the most essential one. The same speaker suggested that at least 63 herbal alternatives to bear bile exist.

At least 28 different forms of packaged medicines purporting to contain bear bile are available in China. However, only two of these (out of more than 2000 medicinal products) are certified by the country's Ministry of Health. Though the representative from China said that China would like permission to market its excess bear bile internationally, a representative of the Animal Welfare Institute in the USA called for a ban on international trade in all bear parts and suggested that when there is a lack of conclusive research findings on the current conservation impacts of the trade on all bear species, the precautionary principle should apply.

Despite these divergent opinions, the majority of symposium participants seemed to favour a reduction in trade in bear gall bladders and bile to a level that would satisfy only urgent healthcare needs. Organizers and participants alike supported formulation of an international working group to propose actions that would reduce the threat trade poses to wild bears while still meeting the healthcare needs of people, and subscribed to a call to continue the dialogue between all stakeholders.

The symposium was sponsored by the Association of Korean Oriental Medicine, the Government of Denmark, the National Fish and Wildlife Foundations, USA, the UK Department of the Environment, Transport and the Regions, WWF-Netherlands and WWF-US.

Samuel Lee, TRAFFIC East Asia



Bear gall bladders, USA.

Photograph: W.J. Cook/NPS

## Djibouti Government Begins to Change its Spots

Djibouti is a small arid country located in the Horn of Africa at the base of the Red Sea, surrounded by Somalia, Ethiopia and Eritrea. For many years it has had a reputation as an "entrepot" of wildlife trade between East Africa and the Arabian peninsula and Europe. The town centre of Djibouti-ville, the capital city, has a thriving local market with many kiosk-style souvenir shops that in addition to legitimate handicraft items openly sell CITES-restricted wildlife products such as Leopard *Panthera pardus* and Cheetah *Acinonyx jubatus* skins, shells of Hawksbill and Green Turtles *Eretmochelys imbricata* and *Chelonia mydas*, and Ostrich *Struthio camelus* eggs. Ivory and rhino horn are also reported to be available more clandestinely. Most of these wildlife products are imported from neighbouring countries, and the bulk are sold to non-Djiboutians who export them (expatriate residents, mainly French, and business travellers since Djibouti has relatively few tourists). No statistics on trade volumes are available, but judging by the quantity of products on sale and the number of outlets involved, trade must be considerable. Throughout 1998/1999, dozens of Leopard and Cheetah skins, hundreds of Ostrich eggs and dozens of turtle shells were regularly on sale at some 20 to 30 kiosks. Most cat skins and Ostrich eggs reportedly originate from Somalia and Ethiopia, while turtle shells are obtained from Somalia and Djibouti.

Live animals such as young Ostriches, Dorcas Gazelles *Gazella dorcas*, Cheetahs and genets *Genetta* spp. are also sold in Djibouti, but tend to be offered to expatriates directly by their captors, usually in the bush or on a door-to-door basis in Djibouti-ville, rather than being exhibited for sale in the city market.

The Government of Djibouti acceded to CITES on 7 February 1992 but until 1999 had not taken any steps to restrict wildlife trade. However, on 1 April 1999 a local veterinarian enlisted the help of the authorities to confiscate three young Cheetah cubs that were being offered for sale in Djibouti-ville by two nomadic pastoralists. The animals had been severely maltreated, and two subsequently died from gangrenous infections of the legs as a result of having been tethered with wire. The surviving cub was placed under the auspices of the Direction de l'Environnement, a relatively new government department created in October 1996 and currently located within the Ministère de l'Habitat, de l'Urbanisme, de l'Environnement et de l'Aménagement du Territoire. During the summer of 1999 a second Cheetah cub was confiscated and placed with the first. Officials from the Ministry and the Direction worked hard to ensure that CITES-export permits for the two individuals were obtained and on 6 December 1999 both were exported to a Cheetah conservation centre in Dubai.



A stall selling Leopard skins, Ostrich eggs, and handicrafts. Djibouti-ville, October 1999.

Nigel Povit

These events were filmed and broadcast in full on Djibouti television, and covered in the national newspaper.

This represents the first time that concrete steps have been taken to control the wildlife trade in Djibouti, and the government should be heartily congratulated for its positive action. It is to be hoped that this marks both the start of an increase in awareness about conservation issues in government circles and amongst the general public, and the start of a campaign of action against the illegal trade in wildlife.

Dr Chris Magin

## Tanzania's Bird Exports Take a Dive as Reptiles Climb

Reptiles accounted for nearly 70% of live CITES exports from Tanzania during the past decade, with Bibron's Thick-toed Gecko *Pachydactylus bironii*, East African Spiny-tailed Lizard *Cordylus tropidosternum* and Yellow-throated Plated Lizard *Gerrhosaurus flavigularis* the three most commonly exported species. By contrast, live bird exports from Tanzania - previously one of the largest exporters of live birds in Africa - have declined by more than three-quarters since 1994 as a result of trade restrictions imposed by the Tanzanian Government, CITES, importing nations and airlines.

This shift in the live animal market in Tanzania comes to light in a study by TRAFFIC East/Southern Africa. The findings of this investigation will be published later this year.

TRAFFIC East/Southern Africa

## CITES Appendices Amendment Proposals

The eleventh meeting of the Conference of the Parties to CITES will be held from 10 to 20 April 2000 at the United Nations Environment Programme (UNEP) headquarters in Nairobi, Kenya. In accordance with the provisions of Article XV, paragraph 1(a) of CITES, the following proposals for amendment of Appendices I and II of the Convention communicated to the CITES Secretariat by Parties will be discussed at the meeting. The countries putting forward the proposals are named in parentheses.

### Proposals resulting from reviews by the CITES Plants Committee

#### FLORA

<i>Ceropegia</i> spp.	Delete App. II (Switzerland)
<i>Frerea indica</i>	Delete App. II (Switzerland)
<i>Byblis</i> spp.	Delete App. II (Australia)
Mcdougall's Cactus <i>Disocactus mcdougallii</i>	App. I > App. II (Switzerland)
Lloyd's Mariposa Cactus <i>Sclerocactus mariposensis</i>	App. I > App. II (Switzerland)
Albany Pitcherplant <i>Cephalotus follicularis</i>	Delete App. II (Australia)
Laguna Beach Dudleya <i>Dudleya stolonifera</i> Santa Barbara Island Dudleya <i>Dudleya traskiae</i>	App. I > App. II (Switzerland)
<i>Cyathea</i> spp.	a) change the current App. II listings of tree ferns Cyatheaceae spp. to <i>Cyathea</i> spp. (including <i>Alsophila</i> , <i>Nephelea</i> , <i>Sphaeropteris</i> , <i>Trichipteris</i> ) (Switzerland)
<i>Cibotium barometz</i> Tree ferns <i>Dicksonia</i> spp.	b) change the current listing of Dicksoniaceae spp. to <i>Dicksonia</i> spp. (originating in the Americas only) and <i>Cibotium barometz</i> (Switzerland)
Short-Styled Oconee-bells <i>Shortia galacifolia</i>	Delete App. II (Switzerland)
Heckner's Lewisia <i>Lewisia cotyledon</i> Maguire's Bitter-root <i>Lewisia maguirei</i> Saw-toothed Lewisia <i>Lewisia serrata</i>	Delete App. II (Switzerland)
California Pitcherplant <i>Darlingtonia californica</i>	Delete App. II (Switzerland)

### Proposals concerning export quotas for specimens of species in App. I or II.

#### REPTILIA

Nile Crocodile <i>Crocodylus niloticus</i>	Maintain population of Tanzania in App. II (in accordance with para. B2c) of Annex 4 of Resolution Conf. 9.24, subject to an annual export quota of no more than 1600 wild specimens (including hunting trophies). This quota does not include ranched specimens. (Tanzania)
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## Other proposals

## MAMMALIA

Indian Pangolin

*Manis crassicaudata*

Chinese Pangolin

*Manis pentadactyla*

Malayan Pangolin

*Manis javanica*

Black Sea Bottle-nosed Dolphin

*Tursiops truncatus ponticus*

Grey Whale

*Eschrichtius robustus*

Minke Whale

*Balaenoptera acutorostrata*

Brown Hyena

*Hyaena (Parahyaena) brunnea*

African Elephant

*Loxodonta africana*

App. II &gt; App. I (India, Nepal, Sri Lanka, USA)

App. II &gt; App. I (Georgia, USA)

App. I &gt; App. II (Eastern North Pacific stock) (Japan)

App. I &gt; App. II (Southern Hemisphere stock) (Japan)

App. I &gt; App. II (Okhotsk Sea-West Pacific stock) (Japan)

App. I &gt; App. II (Northeast Atlantic/North Atlantic Central stock) (Norway)

Delete App. II (Namibia, Switzerland)

App. I > App. II (South African population) to allow: a) trade in raw ivory under an experimental quota of a maximum of 30 t of whole tusks of government owned stock originating from the Kruger National Park, subject to the provisions as set out in Resolution Conf. 10.10; Decision 10.1 and document Doc. SC.41.6.4 (Rev. 2); b) trade in live animals for re-introduction purposes into protected areas formally proclaimed in terms of legislation of the importing country; c) trade in hides and leather goods; d) trade in hunting trophies for non-commercial purposes; e) all other specimens shall be deemed to be specimens of species in App. I and the trade in them shall be regulated accordingly (South Africa)

**Maintain population of Botswana in App. II** Amendment of annotation to read: For the exclusive purpose of allowing in the case of the population of Botswana: a) trade in registered stocks of raw ivory (whole tusks and pieces) of Botswana origin owned by the Government of Botswana for commercial purposes only to CITES-approved trading partners who will not re-export and subject to an annual quota of 12 tonnes (12 000 kg) of ivory; b) trade in live animals to appropriate and acceptable destinations; c) international trade in hunting trophies; d) trade in hides and leather goods (Botswana)

**Maintain population of Namibia in App. II** Amendment of annotation to read: For the exclusive purpose of allowing, in the case of the population of Namibia: a) trade in hunting trophies for non-commercial purposes; b) trade in live animals for non-commercial purposes to appropriate and acceptable destinations (as determined by the national legislation of the country of import); c) trade in hides and leather goods; d) trade in registered stocks of raw ivory (whole tusks and pieces) of Namibian origin owned by Namibia for commercial purposes, to trading partners that have been verified by the CITES Secretariat to have sufficient national legislation and domestic trade controls to ensure that ivory imported from Namibia will not be re-exported and will be managed according to all requirements of Resolution Conf. 10.10 concerning domestic manufacturing and trade, and subject to a maximum annual quota of 2000 kg of ivory (Namibia)

**Maintain population of Zimbabwe in App. II** Amendment of annotation °604 regarding Zimbabwe population to read: For the exclusive purpose of allowing: a) trade in registered stocks of raw ivory (whole tusks and pieces) of Zimbabwe origin stored at the central government store for commercial purposes, to trading partners with adequate controls and enforcement measures; that will not re-export, and subject to a maximum annual quota of 10 000 kg of ivory; b) trade in hunting trophies for non-commercial purposes; c) trade in live animals for non-commercial purposes to appropriate and acceptable destinations; d) trade in hides; e) trade in leather goods and ivory carvings for non-commercial purposes (Zimbabwe)

App. II &gt; I (populations currently listed in App. II) (India, Kenya)

**Amendment of the annotation °604 concerning App. II populations.** In the event of proposals being adopted with the provision that trade in live animals is allowed for non-commercial purposes, or to “appropriate and acceptable destinations” only, the following paragraph shall be added to the annotation: To ensure that where a) destinations for live animals is to “be appropriate and acceptable” and/or b) the purpose of the import is to be “non-commercial”, export permits and re-export certificates may be issued only after the issuing Management Authority has received, from the Management Authority of the state of import, a certification to the effect that: in case a), in analogy to Art. III, para. 3(b) of the Convention, the holding facility has been reviewed by the competent Scientific Authority, and the proposed recipient has been found to be suitably equipped to house and care for the animals; and/or in case b), in analogy to Art. III, para. 3(c), the Management Authority is satisfied that the specimens will not be used for primarily commercial purposes (Switzerland)

**MAMMALIA** ctd

Dugong

*Dugong dugon*

App. II &gt; App. I (Australian population) in according with the provisions of Resolution Conf.9.24, Annex 3) (Australia)

Vicuña

*Vicugna vicugna*

App. I &gt; App. II (Bolivian population in App. I) (Bolivia)

Delete the zero quota for trade in cloth from populations in App. II (Bolivia)

Musk deer

*Moschus* spp.

App. II &gt; App. I (all populations in App. II) (India, Nepal, USA)

Urial

*Ovis vignei*

Incl. App. I (all subspecies not yet listed in the Appendices) (Germany)

Lesser Rhea

*Pterocnemia pennata pennata*

App. I &gt; App. II (Argentinian population), in accordance with Annex 4, para. B2b) of Resolution Conf.9.24 (Argentina)

Gyr Falcon

*Falco rusticolus*

App. I &gt; App. II (North American population), with a zero quota for export of wild birds (USA)

Horned Parakeet

*Eunymphicus cornutus cornutus*

App. II &gt; App. I (France)

Uvea Horned Parakeet

*Eunymphicus cornutus uveaensis*

App. II &gt; App. I (France)

Hwamei

*Garrulax canorus*

Inclusion in App. II (China)

**REPTILIA**Box turtles *Cuora* spp. (sensu lato)*Cuora amboinensis**Cuora flavomarginata**Cuora galbinifrons**Cuora trifasciata*

Inclusion in App. II (in accordance with Article II, paragraph 2(a) of the Convention and criterion B of Resolution Conf. 9.24 Annex 2a.)

*Cuora aurocapitata**Cuora mccordi**Cuora pani**Cuora yunnanensis**Cuora zhoui*

Inclusion in App. II (in accordance with Article II, paragraph 2(a) of the Convention, criterion A of Resolution Conf. 9.24, Annex 2a and/or Article II, paragraph 2(b) of the Convention, criterion B of Resolution Conf. 9.24) (Germany, USA)

Spotted Turtle

*Clemmys guttata*

Inclusion in App. II (USA)

African Spurred Tortoise

*Geochelone sulcata*

App. II &gt; App. I (France)

Pancake Tortoise

*Malacochersus tornieri*

App. II &gt; App. I (Kenya, USA)

Hawksbill Turtle

*Eretmochelys imbricata*

App. I > App. II (Caribbean population) inhabiting Cuban waters, pursuant to Resolution Conf. 9.24, for the exclusive purposes of allowing: 1) the export in one shipment of all existing registered management stocks of shell accumulated from Cuba's management programme between 1993 and March 2000 (up to 6900 kg) to Japan for total consumption within Japan with no re-exports. No further annual export from the traditional harvest is sought and all other specimens of *E. imbricata*, including wild stocks in Cuban waters, will be treated as specimens of species in App. I and international trade in them shall be regulated accordingly (Cuba)

App. I > App. II (Caribbean population) inhabiting Cuban waters, pursuant to Resolution Conf. 9.24, for the exclusive purposes of allowing the export in one shipment of registered management stocks of shell accumulated legally in Cuba from a national management programme between 1993 and March 2000 (up to 6900 kg) to Japan for total consumption within Japan with no re-exports. No further annual export from the traditional harvest is sought and all other specimens of *E. imbricata*, including wild stocks in Cuban waters, will be treated as specimens of species in App. I and international trade in them shall be regulated accordingly (Cuba)

**REPTILIA** ctd

Quince Monitor Lizard  
*Varanus melinus*

Timber Rattlesnake  
*Crotalus horridus*

**AMPHIBIA**

Sonoran Green Toad  
*Bufo retiformis*

Mantella frogs  
*Mantella* spp.

**PISCES**

Whale Shark  
*Rhincodon typus*

Great White Shark  
*Carcharodon carcharias*

Basking Shark  
*Cetorhinus maximus*

Coelacanths  
*Latimeria* spp.

Menado Coelacanth  
*Latimeria menadoensis*

**ARACHNIDA**

Tarantulas *Poecilotheria* spp.

**FLORA**

Flora

Asian Ginseng  
*Panax ginseng*

Monkey Puzzle Tree  
*Araucaria araucana*

CACTACEAE spp.

White-wicky  
*Kalmia cuneata*

Happy Tree  
*Camptotheca acuminata*

*Cistanche deserticola*

Devil's Claw  
*Harpagophytum procumbens*  
*Harpagophytum zeyheri*

False Hellebore  
(Germany)  
*Adonis vernalis*

Hollywood Lignum Vitae  
*Guaiacum sanctum*

App. II > App. I (in accordance with criteria Ai), Bi) and iv), Cii) and D of Resolution Conf. 9.24, Annex 1) (Germany)

Inclusion in App. II (USA)

Delete App. II (USA)

Inclusion in App. II (in accordance with Art. II, para. 2(a), and Resolution Conf. .24) (*M. aurantiaca* already included in App. II) (Netherlands, USA)

Inclusion in App. II (in accordance with Art. II, para. 2(a)) (USA)

Inclusion in App. I (in accordance with Art. II, para. 1) (Australia, USA)

Inclusion in App. II (UK)

Inclusion in App. I (in accordance with Art. II, para. 1, and criteria Ai) and ii), Bi) and iv), Ci) and ii), Annex 1 of Resolution Conf. 9.24. (*L. chalumnae* already included in App. I) (France, Germany)

Inclusion in App. I (Indonesia)

Inclusion in App. II (Sri Lanka, USA)

To harmonize exemptions related to medicinal products by combining the current annotation #2 for Himalayan May-apple *Podophyllum hexandrum* and *Rauvolfia serpentina* with annotation #8 for Himalayan Yew *Taxus wallichiana* in the Interpretation of Appendices I and II (Switzerland)

Inclusion in App. II of roots (in accordance with the provisions of Art. II, para. 2(a)) (Russian Federation)

App. II > App. I (Argentinian population) (Argentina)

Exempt up to three specimens of rainsticks (Cactaceae, *Echinopsis* and *Eulychnia*) per person from CITES controls (Chile)

Delete App. II (USA)

Inclusion in App. II (in accordance with the provisions of Art. II, para. 2(a)) (China)

Inclusion in App. II (China)

Inclusion in App. II (in accordance with Art. II, para. 2(a))  
Inclusion in App. II (in accordance with Art. II, para. 2(b)) (Germany)

Inclusion in App. II (in accordance with Art. II, para. 2(a). Potted live plants to be excluded)

App. II > App. I (USA)



## Implementing CITES for Himalayan Medicinal Plants *Nardostachys grandiflora* and *Picrorhiza kurrooa*



Teresa A. Mulliken

**T**he aromatic rhizomes of Jatamansi *Nardostachys grandiflora* and Kutki *Picrorhiza kurrooa* are prized in traditional medicine practices in Asia, and their essential oils used as a base ingredient for cosmetics and perfumes. Owing to the volume of the trade in these plant species, both within range States and internationally, they were included in CITES Appendix II in 1997. Research on CITES implementation for these species undertaken by the TRAFFIC Network at the request of the CITES Secretariat shows that large-scale international trade in *Nardostachys grandiflora* is being conducted outside the controls of CITES. In addition, the study raised questions concerning the taxonomy and range of *Picrorhiza kurrooa*, and shows that there is every indication that a closely related species - *Picrorhiza scrophulariiflora* - may be more commonly traded and which, as a consequence, may be in need of monitoring with a view to inclusion in the CITES Appendices.

## INTRODUCTION

The perennial herbs Jatamansi *Nardostachys grandiflora* and Kutki *Picrorhiza kurrooa* are widely distributed on undisturbed slopes (3000-5000 m) of the Himalayas (Anon., 1997). Populations have declined in some parts

of their range owing to the over-harvesting of the species' rhizomes for use in several traditional medicine systems to treat a variety of ailments, and as ingredients in incense, perfumes and hair oils.

The two species were listed in CITES Appendix II during the tenth meeting of the Conference of the Parties to CITES, following proposals from India. The listings, which came into effect on 18 September 1997, are annotated to include only "whole and sliced roots and parts of the roots, excluding manufactured parts or derivatives such as powders, pills, extracts, tonics, teas and confectionery". An early review of the implementation of CITES for these species was considered a priority by the CITES Plants Committee in conjunction with the CITES significant trade process for plants for 1998-2000. The CITES Secretariat contracted TRAFFIC to undertake such a review. A summary of TRAFFIC's research was presented to the CITES Plants Committee during its ninth meeting in Darwin, Australia, in June 1999. A comprehensive report of TRAFFIC's findings was communicated by the Secretariat to all range States for these species in December 1999. The following article is based on this report.

## METHODS

Research for this project was carried out by TRAFFIC East Asia, TRAFFIC India and TRAFFIC International between May 1998 and April 1999. Available literature was reviewed in China, India and Nepal. Interviews were conducted with CITES Management and Scientific Authority staff in range States that are Party to CITES (China, India, Nepal and Pakistan) and with staff in the appropriate authority in the range State of Bhutan (a non-Party). In India, specifically, the office of the Assistant Management Authority (Regional Deputy Director-East) in Calcutta, the office of the Assistant Management Authority (Regional Deputy Director-West) in Mumbai and the office of the Assistant Management (Regional Deputy Director-North) in New Delhi were visited. Government forest officers in India were also interviewed.

TRAFFIC staff and consultants visited several international borders and Customs points to assess mechanisms in place to control the trade at these locations, including the checkpoints at Amritsar on the border between India and Pakistan, and at Dharchula on the border between India and Nepal. Several medicinal plant markets in India were visited to assess the volume of trade in *Nardostachys grandiflora* and *Picrorhiza kurrooa*, including Khari Baoli in Delhi, the biggest wholesale market of medicinal plants in northern India. A single market, in Peshawar, was visited in Pakistan.

Representatives of the pharmaceutical industry, traders and the staff of local NGOs in India were also interviewed. In Pakistan, 106 pharmaceutical companies and six important laboratories preparing traditional herbal preparations were sent questionnaires requesting information on their use of these particular species.

Photograph above shows a typical alpine collection area, upper Gorkha District, Nepal, with Tibetan border in the background (at 4300 m). Both *Nardostachys grandiflora* DC and *Picrorhiza scrophulariiflora* Pennell are harvested in this area. Photograph: Carsten S. Olsen

However, the response rate was low and therefore the small amount of information collected via this method was deemed not to be of use to this study. Questionnaires were also sent to 18 forest divisions in north and north-western Pakistan.

Unless otherwise specified, information below was collected by TRAFFIC staff and consultants.

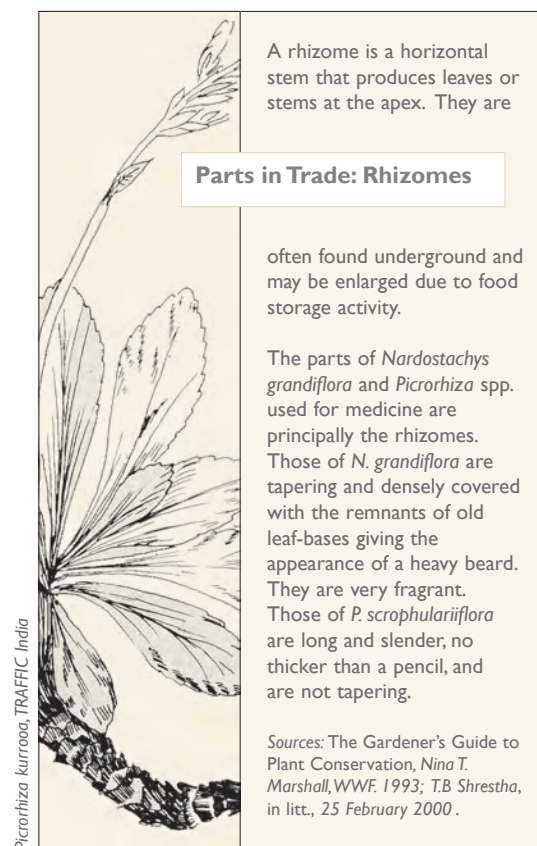
## TAXONOMY AND RANGE

Confusion regarding the taxonomy and trade names of both *Nardostachys grandiflora* and *Picrorhiza kurroa* was noted in the IUCN Analyses (Anon., 1997). Research undertaken for this study indicates that taxonomic questions remain and are impeding CITES implementation.

According to T.B. Shrestha, IUCN Nepal (*in litt.*, 25 February 2000), "jatamansi" is the local trade name for *Nardostachys grandiflora* in Nepal. Until 1980, the scientific name for the plant was considered to be *N. jatamansi*. However, as *Nardostachys jatamansi* had been used in 1790 to describe a different plant species - *Valeriana jatamansi* Jones - the accepted scientific name was changed to *Nardostachys grandiflora*. *Nardostachys jatamansi* is currently considered a synonym for *N. grandiflora* as is *N. chinensis* (Jain, 1994; Anon., 1997; Lange and Schippmann, 1999). As in Nepal, the common trade name in India is "jatamansi," this name similarly being used in Pakistan, where *N. grandiflora* is also referred to as "mushkbala". The rhizomes of *N. grandiflora* are similar in appearance to those of *Valeriana jatamansi* Jones (syn. *Valeriana wallichii*) (Stewart, 1972; Hara and Williams, 1979), the Hindi name for which is also "mushkbala" according to Jain (1994). The rhizomes of these two species are used as substitutes and adulterants for each other (Anon., 1997), the apparently undifferentiated use of both species being noted in Pakistan during the present study.

The proposal to list *Picrorhiza kurroa* in Appendix II stated that *P. kurroa* was a similar but separate species from *Neopicrorhiza scrophulariiflora* Pennel D.Y. Hong (*Picrorhiza scrophulariiflora* Pennel), *Neopicrorhiza* being considered a valid genus by Maberley (1997), which notes, however, that *P. scrophulariiflora* is also treated by some authors as a synonym of *P. kurroa*, a point noted in the IUCN/TRAFFIC analysis of the proposal (Anon., 1997). Questions concerning the species' taxonomy do not appear to have been raised during the discussion of the listing proposal prior to its acceptance.

The CITES Management Authority of China concurs that *Picrorhiza scrophulariiflora* is a separate species from *Picrorhiza kurroa* and believes that only the former occurs in China (Y. Zhou, *in litt.* to the CITES Secretariat, 29 February 2000). Similarly, the CITES Management Authority of Nepal considers that only the species *P. scrophulariiflora* is found in Nepal (M.S. Bista, *in litt.* to the CITES Secretariat, 23 February 2000), a view supported by Olsen (1999), N.K. Bhat-



tarai, a medicinal plant researcher, formerly with the National Herbarium of Nepal (*in litt.*, 12 February 2000) and T.B. Shrestha (*in litt.*, 25 February 2000). The two species are noted as being morphologically alike and with similar chemical properties (Wang *et al.*, 1993, cited in N.K. Bhattarai, *in litt.*, 12 February 2000). Both are referred to by the common name "kutki" and used in a similar manner. To summarize, *Nardostachys* has two synonyms (*N. jatamansi* and *N. chinensis*) which arguably are covered by CITES, and a similar species *Valeriana jatamansi* which is not covered by CITES. *Picrorhiza scrophulariiflora* is closely related to *P. kurroa* but arguably is not subject to CITES.

Both *Nardostachys grandiflora* and *Picrorhiza kurroa* are reported to occur on undisturbed slopes between 3000-5000 m in the Himalayan region (Anon., 1997). *Nardostachys grandiflora* is reported as occurring from Afghanistan to Myanmar and Southwest China (Anon., 1997) and is expected to occur in Pakistan (Anon., 1996). *Picrorhiza kurroa* has been reported as occurring from India to the Yunnan mountains in China (Anon., 1997), however the range of this species needs to be reviewed in view of taxonomic uncertainties.

In this article, species are generally referred to by their scientific rather than their common names. Given the questions concerning taxonomy, information for *Picrorhiza* spp. is reported at the generic level except in cases where the species has been identified, e.g. with respect to legislation. *Nardostachys chinensis* and *N. jatamansi* are treated as synonyms of *N. grandiflora*.



## CITES Annotation and Parts in Trade

It is important to note that while the CITES annotation for these two species refers only to 'roots', the main parts of the plants that are in trade are not actually roots but underground stems, which are more accurately referred to as 'rhizomes' (see box above). The latter term is used in the *CITES Guide to Plants in Trade* (Mathew, 1994) and the *Checklist of Medicinal and Aromatic Plants and Their Trade Names Covered by CITES and EU Regulation 2307/97* (Lange and Schippmann, 1999). Texts referring to the medicinal properties of these species (e.g., Anon., 1993; Keys, 1976; Jain, 1994; and Yang, 1996) use both 'root' and 'rhizome' to refer to the plant parts in trade. According to Jain (1994) and Yang (1996), both the roots and rhizomes of *Nardostachys grandiflora* are used, while Jain (1994) and Zhang *et al.* (1994) state that only the rhizomes of *Picrorhiza kurrooa* are used. By contrast, Keys (1976) refers only to roots when describing the medicinal properties of these two species. The text that follows generally refers to the parts used and traded as 'rhizomes', following Lange and Schippmann (1999); however, it should be understood that this may refer to both roots and rhizomes. 'Root' is used in cases where this is the specific term used by the source being cited.

## DOMESTIC USE

The rhizomes of *Nardostachys grandiflora* and *Picrorhiza* spp. - the main parts valued for their medicinal properties - and extracts made therefrom, are used in traditional medicines systems of range States (Bhutan, China, India, Nepal and Pakistan) (Fratkin, 1986 and Tsarong, 1986, in Anon., 1997; Anon., 1993; Yang, 1996). The rhizomes of these species are similar in appearance to some other medicinal plant species in the region and may also be used in a similar way to other species to treat similar ailments, as noted above for *Nardostachys grandiflora* and *Valeriana jatamansi* (Jain, 1994). This increases the difficulty of acquiring an accurate picture of the trade and trade volumes both domestically and internationally.

In addition to its use in traditional medicines, *Nardostachys grandiflora* is also used in incense in range countries as well as countries in the Middle East (Burbage, 1981, in Anon., 1997), and in perfumes.

The rhizomes of *Picrorhiza* spp. are used both medicinally and as a tonic. *Picrorhiza kurrooa* is regarded as being one of the major components of *Arogyavardhini*, a potent Ayurvedic formulation used to treat liver ailments (Kapahi *et al.*, 1993, in Anon., 1997).

Further information on the uses of these species in key range States is provided below.

### JATAMANSI *NARDOSTACHYS GRANDIFLORA*

**Bhutan:** pounded plants are mixed with other plant material and used primarily to manufacture incense, which is burned during religious rites and ceremonies. A small quantity is used as an ingredient in the preparation of indigenous medicine.

**China:** the plant's uses were first recorded in *The Compendium of Materia Medica*, compiled in the sixteenth century (Fu, 1993; Zhang *et al.*, 1994) and are listed in the current version of the *Pharmacopoeia of China* (Anon., 1995a). It is effective in pain relief, regulating Qi and treating a 'turgid' chest (Zhang *et al.*, 1994). The species was not considered by those interviewed to be commonly used in China for medicinal purposes. One individual noted that it was used as incense.

**India:** widely used for centuries as medicine and in perfumery. It is valued for its antispasmodic and stimulant properties and is therefore useful in the treatment of fits and heart palpitations, to treat constipation, and regulate urination, menstruation and digestion (Jain, 1994). Its use in India in incense, perfumery and in hair oils may be more common than use in medicines (C.S. Olsen, *in litt.*, 22 February 2000).

**Nepal:** used in tonics, stimulants, as an antiseptic, for the treatment of epilepsy, hysteria, convulsions and heart palpitations (Anon., 1993).

**Pakistan:** used to treat hysteria, epilepsy, neurosis, insomnia, constipation and scorpion stings (Kazmi and Siddiqui, 1953; Zaman and Khan, 1970; Anon., 1982; Khan and Zaidi, 1989). Under the name of *Asaroon*, the plant is used in nine herbal preparations, according to the *Hamdard Pharmacopoeia* (Qarabadain-e-Hamdard), for treatment of hemiplegia (paralysis of one side of the body, usually following brain injury), Bell's Palsy (paralysis, usually temporary, of facial muscles), Parkinson's disease (a progressive chronic disorder characterized by impaired muscular co-ordination and tremor), tremors, indigestion and deafness due to age. The essential oil is used as a flavouring agent and in the cosmetic industry and as a basic ingredient in all quality perfumes. The plant is also said to be used as an aphrodisiac and for improving memory.



Rhizomes of Jatamansi *Nardostachys grandiflora* (above) and Kutki *Picrorhiza kurrooa*

Photographs: Pushp K. Jain







*Picrorhiza  
scrophulariiflora*  
growing in Shey  
Phoksundo  
National Park,  
Dolpa District,  
Nepal.

Photograph:  
Yeshi Choden Lama

## KUTKI *PICRORHIZA* SPP.

**Bhutan:** used as a medicine for coughs, colds and fever. The National Institute of Traditional Medicines and other indigenous hospitals use the rhizomes as an ingredient in manufacturing indigenous medicine.

**China:** use of *Picrorhiza scrophulariiflora* was recorded in the *The Newly Revised Compendium of Materia Medica*, or the *Xinxu benaco*, which is believed to have been compiled as the first official pharmacopoeia in China during the first century (Fu, 1993; Zhang *et al.*, 1994), and is also listed in the current version of the *Pharmacopoeia of China* (Anon., 1995a). Only the rhizome of *P. scrophulariiflora* is used in traditional Chinese medicine (Zhang *et al.*, 1994). *Picrorhiza scrophulariiflora* is said to have effects on fever, malnutrition due to digestive disorders, jaundice, diarrhoea and dysentery (Zhang *et al.*, 1994). The plant was not considered by those interviewed as a widely used medicinal plant in China, and is rarely traded in Hong Kong. The species is also used in traditional Tibetan medicine (Yang, 1996).

**India:** used in Ayurvedic and Unani traditional medicines. The rhizomes are prized for their demonstrated efficacy as an antibiotic. They are also used as an adulterant of, or as a substitute for, *Gentiana kurroo* (Jain, 1994; Anon., 1997). Properties that these taxa share include the ability to stimulate appetite and gastric secretions (Jain, 1994). They are used by ethnic hill groups in India for various ailments and diseases.

**Nepal:** according to Anon. (1993), the root of *Picrorhiza scrophulariae* [sic] is used in Nepal as a cathartic, in cases of dyspepsia, as a purgative, and to treat scorpion bites.

**Pakistan:** the rhizomes are used in the Ayurvedic and Greek-Arab systems of medicine in Pakistan, most commonly as an aromatic, carminative agent, stimulant, and as a remedy for coughs, bronchial asthma, persistent hiccups and diseases of blood, liver, kidney and skin; the species is also taken as an aphrodisiac tonic. The rhizomes have antiseptic and disinfectant properties (Zaman and Khan, 1970; Khan and Zaidi, 1989). They are also used locally as an insect repellent and to prevent moth damage to woollen clothing. Under the name of *Qust-talakh*, *Picrorhiza kurrooa* is used in two herbal preparations listed in the *Hamdard Pharmacopoeia*. These are *Maajoon-e-*

*murravehul-azwah* and *roghane-qust-talakh* (an essential oil), which, in addition to the above indications, are also used for treatment of hypothermia, debility, tremors, tetanus and gout (Hamdard, 1968).

## INTERNATIONAL TRADE

No CITES annual report data were available for this review owing to the very recent listing of *Nardostachys grandiflora* and *Picrorhiza kurrooa* in the CITES Appendices, and permit data were not available from CITES Management Authorities requested to provide this information. Other quantitative information on trade volumes is also limited, as much of the trade is apparently unregulated and/or occurring outside established trade controls, and therefore undocumented. As noted above, the similarity of appearance in the rhizomes of these and other species and substitution of one species for another further impedes trade monitoring.

Available information indicates that the main products in international trade of *Nardostachys grandiflora* and *Picrorhiza* spp. are unprocessed rhizomes, with smaller amounts of trade in processed products such as oil. Nepal is the primary country of export for both taxa, exporting large amounts of unprocessed rhizomes, and smaller quantities of oil produced from the rhizomes of *N. grandiflora*. Olsen (1999) estimates that Nepal's annual export to India of dried unprocessed rhizomes of *N. grandiflora* involves approximately 1000 t per year, with only about 17% of this subsequently re-exported from India. Information acquired during visits to Delhi's Khari Baoli medicinals market for this study similarly indicate that most *N. grandiflora* in trade originates from Nepal. The "marc" (the root of *N. grandiflora* after the essential oil has been extracted) is also exported from Nepal to India (N.K. Bhattarai *in litt.*, 12 February 2000). Nepali Customs data from three border posts show the export of 3202 kg of *N. grandiflora* oil to India during 1996/97. Olsen (1999) considers *N. grandiflora* to be one of the two most important plant species traded from Nepal. Olsen (1999) gives a conservative and rough estimate of annual 'kutki' exports from Nepal to India to be 100 t of air-dried rootstock. The importation of four tonnes of *Picrorhiza* spp. to India from Nepal is reported to have taken place in April 1998 (S. Panda, *in litt.* to TRAFFIC India, 9 November 1998). A significant quantity of *Picrorhiza* spp. is also reported to be exported regularly to Tibet (China) through Nepal's northern frontiers, although no official records or Customs data are available. Likewise, a significant quantity of *Nardostachys grandiflora* is regularly imported into Nepal from Tibet, where the oil is extracted and it is thought that the marc may possibly be mixed with unprocessed Nepalese plant materials and exported to India (N.K. Bhattarai, *in litt.*, 12 February 2000).

As is apparent from the above, as well as being a range State itself, India is the primary country of import for *N. grandiflora* and *Picrorhiza* spp. rhizomes in international trade. Most of the material imported into India is processed and consumed locally (roughly 80%

according to individuals interviewed), with relatively smaller amounts re-exported in the form of manufactured products, e.g. medicines.

Smaller but potentially significant amounts of rhizomes of *Picrorhiza* spp. are traded between India and Pakistan. Research for this study indicated that demand for *Picrorhiza* spp. in Pakistan may exceed the amounts harvested domestically, with the remainder imported from India. Olsen (1999) notes that *P. kurroo* is exported from Pakistan to Uttar Pradesh. There also appears to be a relatively small trade in these species from Bhutan to India.

Available information indicates potentially significant international trade in *Picrorhiza* spp. into China. Data for the early 1980s record the total import into China of 456 t of *Picrorhiza* spp. from 1980-1985; data were next available for 1994, when 100 t were reported as imported (Song, 1996).

## CITES IMPLEMENTATION, AND DOMESTIC TRADE CONTROLS AND MANAGEMENT IN KEY RANGE STATES

### Bhutan

Bhutan is not a Party to CITES. Protection of flora and fauna is provided for under the *Forest and Nature Conservation Act*. Collection of both species from the wild is allowed under this Act, and transport within Bhutan controlled under a system of permits through a related regulation. Specific guidelines have been set by the Royal Government Forestry Service Division for the extraction of *Picrorhiza* spp., e.g. restricting collection to less than 30% from any clump, and covering exposed roots remaining with soil. Collections are required to be made under the strict supervision of forestry staff. According to a regulation issued by the Royal Government Forestry Service Division, it is necessary for regional forestry divisions to submit a quarterly report of extraction of all forest products to the central headquarters. The reports are based on the quantities stated on permits. Although exports of most medicinal plants are banned, including *Nardostachys grandiflora*, exports of *Picrorhiza* spp. are allowed once the needs of indigenous peoples of Bhutan are met. A Certificate of Origin and a transit permit are required to be presented to Customs checkpoints at the time of export.

### China

At present, there is no law formulated specifically to implement CITES within China, however, certain laws contribute to the implementation of the Convention in this country.

*Picrorhiza scrophulariiflora* is one of 388 species included in the *China Plant Red Data List*, where it is listed as a Category III species (Anon., 1987). No statutory protection is provided as a result of a species' inclusion in the Red List. *Picrorhiza scrophulariiflora* has also been classified as a Category III species under the *Regulations of China on Protection of Medicinal Resources*, which became effective 1 December 1987. According to this regulation, Category III species are those considered to be "major and commonly used and wild medicinal species whose resources are reducing". Exports of Category II and III species are subject to a quota system under Article XV of this regulation, although it is unclear if such a quota system is being implemented for *P. scrophulariiflora* or other species.

China's *Law of Wild Plant Protection* took effect 1 January 1997. Under this law, protected plant species are classified into those of "national key significance" and those of "local key significance". Protected plant species of national key significance are further divided into Category I and Category II protected species. Trade in Category I protected species is not allowed. Trade in plant species listed as Category II is subject to authorization by the relevant government agencies at the provincial/autonomous region level. The State Forestry Administration, the Ministry of Agriculture and other authorized governmental authorities at the provincial/autonomous region level are responsible for enforcing the *Law of Wild Plant Protection*. A list of 255 species is appended to this law. Fifty plant species are classified as Category I species and the remaining 205, which includes *Picrorhiza scrophulariiflora*, as Category II species.

**The majority of international trade in *Nardostachys grandiflora* and *Picrorhiza* spp. involves unprocessed rhizomes, with smaller amounts of trade in finished products such as oil for use in perfumery.**

From 1 January 1998, China's regulatory system for the export of wild animals and plants was strengthened by the Endangered Species of Wild Fauna and Flora Import and Export Administrative Office (under the State Forest Administration), the designated CITES Management Authority, and the Customs Authority. A wide range of animals and plants with their corresponding Harmonized System Customs codes are specified in an annex attached to a Joint Notification from the Management Authority and the Customs Authority. The list is said to be compiled on the basis of the CITES Appendices and the lists of key national protected animals and plants. The Notification was amended in February 1999 to include both *P. kurroo* and *Nardostachys grandiflora*. The notification has been circulated among the officers of the Management

Authority and Customs across the country and was copied to various other governmental agencies. Trade in live animals or plants, parts in their raw form, and products made from those animals and plants specified on the said list are controlled. According to the Joint Notification, where applicable, import/export permits or certificates are required.

## India

Domestic harvest of *Nardostachys grandiflora* and *Picrorhiza kurrooa* is not regulated by any legal provision except in the State of Uttar Pradesh, which has banned extraction of both species from the wild.

The Director of Wildlife Preservation of the Government of India is the CITES Management Authority and oversees CITES implementation in the country. The Director has four Regional Deputy Directors and four sub-regional offices of wildlife preservation, these serving as assistant CITES Management Authorities.

CITES is implemented in India through a combination of the *Wildlife Protection Act, 1972/1991* and the Export and Import Policy (EXIM) of the *Foreign Trade (Development and Regulation) Act, 1992* and the *Customs Act, 1962*. Neither *Nardostachys grandiflora* nor *Picrorhiza kurrooa* are included in the list of species provided in Schedule VI of the *Wildlife Protection Act*, and therefore are not protected under this legislation, but are covered under the EXIM policy. All violations of the EXIM policy constitute an offence under the *Customs Act* and are dealt with by Customs officials, who alone have the responsibility to enforce compliance with CITES at border posts. Inspection of consignments by Wildlife Inspectors, co-operating with Customs staff, may also be carried out at border crossings, but such specialist investigations are few. Enforcement of any violations detected is still the responsibility of the Customs authorities (S. Panda, *in litt.* to TRAFFIC India, 9 November 1998).

The EXIM policy is announced periodically by the Ministry of Commerce under the provisions of the *Foreign Trade (Development and Regulation) Act*. It lays down conditions governing the import and export of all goods, including wildlife. The Policy, as far as it concerns wildlife, is decided in consultation with the CITES Management Authority and enforced through the *Customs Act*. Customs officials are informed of changes to the policy via executive orders and circulars from their superiors, including a monthly publication, *EXIM Update*, issued by the Directorate General of Foreign Trade, Ministry of Commerce. The 14 October 1998 Notification was the first notice provided to Customs authorities regarding the Appendix II status of *Nardostachys grandiflora* and *Picrorhiza kurrooa*.

The Notification coincided with the listing, on 14 October 1998, of 29 plants (*Nardostachys grandiflora* and *Picrorhiza kurrooa* included) under the EXIM policy covering the period 1997-2002 (*Notification No. 24 (RE-(98)/1997-2002, New Delhi*). Exports and re-exports of both *Nardostachys grandiflora* and

*Picrorhiza kurrooa* in raw form are banned under this policy. Exports of finished products, e.g. medicines, are allowed if the contents are 'unrecognizable and physically inseparable' or if proof can be provided that the raw material originated from imported stock. Cultivated specimens may also be exported upon satisfactory proof of cultivation, with a requirement that these be accompanied by a CITES export permit if the species are included in the Appendices.

Current legislation and policies do not provide for CITES import controls for *Nardostachys grandiflora*, *Picrorhiza kurrooa* or other CITES-listed medicinal plant species. As a result, CITES is not routinely implemented for imports of these species into India. However, at least one shipment of *P. kurrooa* has been prevented from import owing to lack of an accompanying CITES export permit from Nepal (see below).

## Nepal

Conflicting information was collected regarding the harvest and trade controls for medicinal plants in Nepal, and additional clarification is required. As indicated above, taxonomic issues also need to be made clearer.

Wildlife harvest and trade controls are implemented in national parks, conservation areas and protected areas via the *National Parks and Wildlife Conservation Act (1973)*; elsewhere in the country, implementation is via the *Forest Act (1993)* and accompanying *Forest Rules (1995)* (C.S. Olsen, *in litt.*, 22 February 2000; T.B. Shrestha, *in litt.*, 25 February 2000).

The *Forest Act* stipulates rules pertaining to the collection of both *Nardostachys grandiflora* and *Picrorhiza scrophulariiflora*. Collection is authorized via permits issued by District Forest Offices, which specify the collection area but, according to research undertaken for this study, not harvest times or the specific quantity allowed to be harvested. According to C.S. Olsen (*in litt.*, 22 February 2000), however, the *Forest Act* requires that these permits also specify the period in which harvest must take place; the species and quantities to be collected; and method of harvest. District Forest Offices are similarly responsible for enforcing these harvest restrictions. A "release order for herbs" is required to transport harvested plants out of the district of origin, which should state: the species and quantity transported; the destination; and the period in which transportation must take place (C.S. Olsen, *in litt.*, 22 February 2000). In contrast, Bhattarai (1999) comments that there are no restrictions on the collection or transport of *Nardostachys grandiflora*, although exports of raw products of this and *Valeriana jatamansi* are banned.

At present there is no specific CITES-implementing legislation, however legislation to promote more

Nepal is the primary country  
of export of *Nardostachys*  
*grandiflora* and *Picrorhiza*  
*scrophulariiflora*



effective CITES implementation has been drafted, known as the *Endangered Species (Trade Control) Act*. A policy specifying allowable exports and imports is also being formulated. Nepal's CITES Management Authority is His Majesty's Government Department of Plant Resources. The CITES Scientific Authority for flora is the National Herbarium of His Majesty's Government Department of Plant Resources, Ministry of Forests and Soil Conservation. The Management Authority issues export permits for plants covered by CITES and/or the *Forest Act* that are in a processed or semi-processed form (M.S. Bista, *in litt.* to the CITES Secretariat, 23 February 2000). Export of *Nardostachys jatamansi* and *Picrorhiza serophulariaefolia* [sic] requires prior presentation of the collection permit and payment of royalties (Anon., 1995b). The Ministry of Commerce (Customs) and the police assist in the enforcement of import and export controls. However, it should be noted that Customs officers are not trained in the identification of medicinal plants (M.S. Bista, *in litt.* to the CITES Secretariat, 23 February 2000).

A list of CITES species published by the Government of Nepal in September 1997 did not include *Nardostachys grandiflora*, but did include "*Valeriana jatamansi*, Indian Spikenard, local name Jatamansi". However, both "jatamansi" and "Indian Spikenard" are common names for *Nardostachys grandiflora*, not *Valeriana jatamansi*, and, further, the latter species is not included in the CITES Appendices. The use of the scientific name *Valeriana jatamansi* would therefore appear to have been in error. The list also included *Picrorhiza scrophulariiflora*, which, as is noted above, is not considered a synonym of *P. kurrooa* according to Nepal's CITES Management Authority (M.S. Bista, *in litt.* to the CITES Secretariat, 23 February 2000). An official of the Ministry of Environment and Forests, Wildlife Regional Office, Mumbai, India, stated that a shipment of *Picrorhiza* spp. to India was refused entry because it lacked a CITES export permit from Nepal, the Government of Nepal stating that the species was not included in the CITES Appendices (S. Panda, *in litt.* to TRAFFIC India, November 1998).

Export of the unprocessed rhizomes of *Nardostachys grandiflora* is banned, but there do not appear to be similar export restrictions in place for *Picrorhiza* spp. (N.K. Bhattarai, *in litt.*, 12 February 2000; C.S. Olsen, *in litt.*, 22 February 2000), although the CITES Management Authority commented that permits were only issued for CITES-listed plants in processed or semi-processed form (M.S. Bista, *in litt.* to the CITES Secretariat, 23 February 2000). Large volumes of both *Nardostachys grandiflora*



Collector, middle Gorkha District, Nepal, with harvested specimen of *Nardostachys grandiflora* DC, moist alpine meadow (at 3850 m).

Corsten S. Olsen

and *Picrorhiza* spp. are being exported to India in raw form, however. It is suspected that these exports may be taking place (possibly in mixed shipments) accompanied by Certificates of Origin specifying them as "jari-buti", a generic term used to describe herbs, 975 t of which were reported as exported from Nepal to India in 1995/96.

Very little quantitative information regarding the impact of current harvest levels on wild populations in Nepal was identified during the course of this study. Bhattarai (1999) and Manandhar (1999) both express general concern regarding the status of medicinal plants in Nepal. Bhattarai (1999) comments that traditional systems of collection and use were functional for a long period, but cannot serve as a model for the future owing to increased threats from human factors including habitat destruction and overexploitation. Olsen (1999) contends that harvest of *Nardostachys grandiflora* and *Picrorhiza* spp. in Nepal is likely to be within sustainable levels. N.K. Bhattarai (*in litt.*, 12 February 2000) adds that these taxa are "under-harvested" in many localities in the Nepal Himalaya, but that given possible threats, measures such as studies on sustainability and training on better harvesting techniques and better management practices should be implemented. According to the CITES Management Authority (M.S. Bista, *in litt.* to the CITES Secretariat, 23 February 2000), the distribution of wild populations and sustainable harvest levels have not been established for specific localities, with studies to obtain such information required. Bhattarai (1999) notes that ongoing research within the Plant Research Division of the Department of Plant Resources includes preparation of an inventory of wild medicinal plants, assessments of threats to wild plant resources and efforts to improve cultivation.



Collector with bamboo basket containing *Nardostachys grandiflora* DC rhizomes. Middle Gorkha District, Nepal (at 3600 m).



Collectors cleaning *Nardostachys grandiflora* DC before drying. Middle Gorkha District, Nepal.

Photographs: Carsten S. Olsen

Both Olsen (1999) and Bhattarai (1999) draw attention to the importance of medicinal plant harvest and trade to rural economies in Nepal. Olsen (1998) estimates that 470 000 households are involved in commercial medicinal plant collection.

#### *Treaty of Trade between Nepal and India*

In an effort to expand trade between their two countries, the Governments of India and Nepal entered into a bilateral trade agreement in 1991. The treaty provides for preferential treatment for the importation into India of certain goods from Nepal. These include forest produce which has not undergone processing, and Ayurvedic and herbal medicines (Article IV). Under this treaty, a certificate of origin issued by the Government of Nepal is the only document required for presentation to India's Customs authorities at the time of import. Border officials are unaware that CITES documentation might also be required for export (as noted above, under India's current CITES implementing legis-

lation and the EXIM Policy, CITES export permits would not be required to accompany shipments into India in any event). The treaty contains provisions for stronger domestic measures on the part of national governments, and, in Annex C, provides a list of articles not allowed preferential treatment (e.g. cigarettes and alcohol). It appears that this Annex could be amended to reflect CITES requirements.

TRAFFIC India has informed Government authorities in both India and Nepal of the apparent relevance of this treaty with respect to CITES trade controls. Initial research results from this study were communicated to the second Indo-Nepal Trans-border Meeting in February 1999. As a result, the final resolution of that meeting called for bringing the bilateral treaty in line with CITES requirements.

#### **Pakistan**

The collection of medicinal plants is controlled by the Forest Department and commercial exploitation from reserved forests is forbidden throughout Pakistan by order of the Inspector General of Forests, Islamabad. Where harvesting of *Picrorhiza kurrooa* and *Nardostachys grandiflora* is allowed, it is usually through the sale of the lease of an area to a person or party for one year. Before taking plants from the site of collection, the local Divisional Forest Officer must be approached for the issue of a transport permit, obtainable on the payment of a fixed duty. The size of the consignment and transport permits are checked at forest exit points.

The CITES Management Authority is the National Council for the Conservation of Wildlife (NCCW), under the authority of the Ministry of Environment, Local Government and Rural Development, in Islamabad. CITES permits are issued by the NCCW, which is also responsible for formulating countrywide legislation for regulating harvest, national and international trade of CITES-listed species. It issues directives to various provincial Forest Departments to control the harvest and trade of *Picrorhiza kurrooa* and *Nardostachys grandiflora* and intervenes wherever a violation of CITES is reported. It is also responsible for inter-provincial and international co-ordination of CITES implementation. Enforcement officials interviewed at border posts were generally unaware of CITES requirements.

#### **CONCLUSIONS**

There is significant confusion regarding the taxonomy of the species covered by the current CITES listings. The taxonomy of *Picrorhiza* is in need of further study. During this investigation it has become clear some authorities consider *Picrorhiza kurrooa* and *P. scrophulariiflora* to be separate species. The species most commonly found in trade - *P. scrophulariiflora* - is not listed in the CITES Appendices.

In some cases the taxonomic confusion is reflected in national legislation. Species are often traded under



various trade names, further complicating identification. In addition, although the rhizomes of *P. kurrooa* and *Nardostachys grandiflora* are dissimilar in appearance, they may be similar in appearance to those of other species which may be used as substitutes or adulterants. This increases the difficulty of trade monitoring and CITES implementation.

International trade in *Nardostachys grandiflora* and *Picrorhiza* spp. consists largely of exports of rhizomes from Nepal to India, with smaller amounts of trade taking place between Nepal and China, India and Pakistan, and, to a far lesser extent, between India and Bhutan. Further research is required regarding international trade involving China. Exports of *N. grandiflora* oil from Nepal have also been recorded in Nepal's Customs data.

It is clear that governments are largely failing to implement the CITES Appendix II listings for *Nardostachys grandiflora* and *Picrorhiza kurrooa*, with large-scale trade conducted without accompanying CITES permits. It does not appear that export permits are accompanying shipments from Nepal. Exports of *Nardostachys grandiflora* rhizomes from Nepal also appear to violate a national ban on the export of unprocessed forms of this species. At present, there are no CITES-related controls on the importation of these species into India. This reflects both a lack of CITES implementing legislation in India for imports of these species, and the effect of the Indo-Nepali trade treaty, which aims to reduce trade barriers for these and other items. Suspected exports of raw products from India to Pakistan are in violation of India's export controls. Controls on the trade from Pakistan require further clarification.

Additional information is required to assess the sustainability of harvest for international trade, especially that involving Nepal and possibly Pakistan, should the latter country be found to be a major source of exports.

Given that the vast majority of international trade in both species appears to involve unprocessed rhizomes, the current annotation seems generally appropriate with respect to the level of processing of products covered. However, it does not accurately describe the plant parts in trade, which are primarily rhizomes, not roots.

#### ISSUES REQUIRING FURTHER STUDY AND/OR ACTION:

- > further clarification is required regarding the taxonomy of *Picrorhiza kurrooa* and *P. scrophulariiflora*.
- > modification of the current annotation of the listing of these species in the CITES Appendices to include the term 'rhizomes' in addition to roots should be considered, ensuring that the term 'root' is maintained in the annotation as it is more likely to be understood by Customs officials and others implementing CITES for these species.

> further research is required to assess and ensure the sustainability of harvest for international trade of both species; training in sustainable management and harvest techniques should be developed that support measures to maintain harvests within sustainable levels.

> trade between India, Pakistan, Nepal and China should be investigated further and action taken to address any CITES trade control problems identified.

> modifications in national legislation are an important first step towards more effective implementation of CITES for these species. Specifically:

- national legislation in China should be expanded to address harvest and trade of *Nardostachys grandiflora*;
- existing legislation in India should be expanded to include CITES-related controls on imports and re-exports of all CITES-listed medicinal plant species, including *Nardostachys grandiflora* and *Picrorhiza kurrooa*;
- domestic harvest and trade controls and export policies for *Nardostachys grandiflora* and *Picrorhiza* spp. in Nepal should be reviewed and clarified. In addition, CITES implementing legislation providing for the effective control of exports should be adopted.

> the Treaty of Trade between Nepal and India should be modified in order to reflect CITES requirements.

> the Government of Bhutan should be encouraged to implement trade controls comparable to those required under the Convention.

> Appropriate training materials and programmes should be developed in order to ensure that CITES Management and Scientific Authority staff within range States understand and are better able to implement their responsibilities under the Convention. Training should also be provided to Customs staff, who are largely responsible for CITES enforcement at international borders.

#### ACKNOWLEDGEMENTS

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Jamamsi Nardostachys grandiflora by N.K. Bhattarai

## REFERENCES

- Anon. (1982). *Markets for Selected Medicinal Plants and their Derivatives*. International Trade Centre UNCTAD/GATT, Geneva, Switzerland.
- Anon. (1987). *Rare and Endangered Plants of China*. Shanghai Educational Press, Shanghai, China (in Chinese).
- Anon. (1993). *Medicinal Plants of Nepal*. Bulletin of the Department of Medicinal Plants No. 3. His Majesty's Government of Nepal, Ministry of Forests and Soil Conservation, Department of Medicinal Plants, Thapathali, Kathmandu, Nepal. Fourth edition.
- Anon. (1995a). *The Pharmacopoeia of People's Republic of China*, 1995 Edition. Guangdong Scientific Technology Press, Guangzhou, China.
- Anon. (1995b). *Biodiversity Profile of High Mountains and High Himal Physiographic Zones*. Biodiversity Profiles Project Publication No. 14. Department of National Parks and Wildlife Conservation, Ministry of Forests and Soil Conservation, His Majesty's Government of Nepal, Kathmandu, Nepal.
- Anon. (1996). *Final Report on Use of Medicinal and Aromatic Plants in SWC Programmes*. Prepared by Ghosh and Rao Consultants Pvt. Ltd. Department of Agriculture and Co-operation, Ministry of Agriculture, Government of India.
- Anon. (1997). *IUCN Analyses of Proposals to Amend the CITES Appendices*. Prepared by IUCN Species Survival Commission and the TRAFFIC Network for the Tenth Meeting of the Conference of the Parties to CITES. IUCN-The World Conservation Union, Gland, Switzerland.
- Bhattarai, N.K. (1999). Medicinal Plants and the Plant Research Division of Nepal. *Medicinal Plant Conservation* 5:7-8.
- Burbage, M.B. (1981). *Report on a Visit to Nepal: the Medicinal Plant Trade in the Khardep area - a Study of the Development Potential*. Tropical Products Institute, London, UK. Cited in Anon. (1997).
- Fratkin, J. (1986). *Chinese Herbal Patent Formulas: a Practical Guide*. Shya Publications, Boulder, USA. Cited in Anon. (1997).
- Fu, W. (1993). *History of Traditional Chinese Medicine*. Bashu Publications, Sichuan, China.
- Hamdard (1968). *Qarabadain-e-Hamdard*. Pharmaceutical Advisory Council, Hamdard Academy, Karachi, Pakistan.
- Hara, H. and Williams, L.J.H. (1979). *Enumeration of the Flowering Plants of Nepal*. Vol. II. British Museum (Natural History), London, UK. p.209.
- Jain, S.K. (1994). *Medicinal Plants*. Fifth Edition. National Book Trust, New Delhi, India.
- Kapahi, B.K., Srivastava, T.N. and Sarin, Y.K. (1993). Description of *Picrorhiza kurrooa*, a source of the Ayurvedic drug *Kutki*. *Int. J. Pharmacog.* 31(3):217-222. Cited in Anon. (1997).
- Kazmi, M.A. and Siddiqui, I.A. (1953). Medicinal plants of Astore and Upper Guraiz Valleys. *Pakistan J. For.* 3(4):186-212.
- Keys, J.D. (1976). *Chinese Herbs: Their Botany, Chemistry and Pharmacodynamics*. Charles E. Tuttle Company Rutland, USA and Tokyo, Japan.
- Khan, A.H. and Zaidi, S.H. (1989). *Propagation and Regeneration Technology of Pharmacopeial Medicinal Plants of the Temperate Regions of Pakistan*. Bulletin No. 8. Biological Sciences Research Division, Pakistan Forest Institute, Peshawar, Pakistan.
- Lange, D. and Schippmann, U. (Comps.) (1999). *Checklist of Medicinal and Aromatic Plants and their Trade Names Covered by CITES and EU Regulation 2307/97, vers. 3.0*. Bundesamt für Naturschutz (BfN)/German Federal Agency for Nature Conservation, Bonn, Germany.
- Mabberley, D.J. (1997). *The Plant Book; A Portable Dictionary of Vascular Plants*. Second Edition. Cambridge University Press, Cambridge, UK.
- Manandhar, N. (1999). Conservation of medicinal plants in Nepalese forests: Problems and perspectives. *Medicinal Plant Conservation*. 5:3-4.
- Mathew, M. (Ed.) (1994). *CITES Guide to Plants in Trade*. Department of Environment, UK.
- Olsen, C.S. (1998). The trade in medicinal plants from Nepal: status and possible improvements. Theme paper presented at the *International Conference on Medicinal Plants*, Bangalore, 16-19 February, 1998. 12pp. In: Olsen, C.S. (1999).
- Olsen, C.S. (1999). CITES Appendix II re-visited: Is the listing of *Nardostachys grandiflora* and *Picrorhiza kurrooa* appropriate? *Medicinal Plant Conservation*. 5:8-10.
- Song, M. (1996). *Directory for Import and Export of Traditional Chinese Medicine Trade*. Traditional Chinese Medicine Press of China, Beijing, China.
- Stewart, R.R. (1972). *Flora of Pakistan*. Ann Arbor, USA.
- Tsarong, T.J. (1986). *Handbook of Traditional Tibetan Drugs; their Nomenclature, Composition, Use and Dosage*. Tibetan Medical Publications, Kalimpong, India. In: Anon. (1997).
- Wang, D., He, Z., Feng, B. and Yang, C. (1993). Chemical constituents from *Picrorhiza scrophulariiflora*. *Acta Bot. Yunnanica* 15(1):83-88. Cited in N.K. Bhattarai, *in litt.*, 12 February 2000.
- Yang, Y.C. (ed.). (1996). *Tibetan Materia Medica*. Qinghai People's Press, Qinghai, China.
- Zaman, M.B. and Khan, M.S. (1970). *Hundred Drug Plants of West Pakistan*. Medicinal Plant Branch of the Pakistan Forest Institute, Peshawar, Pakistan.
- Zhang, Y-J., Li, W. and Zheng, M. (eds). (1994). *Chinese-English Chinese Traditional Medicine World Dictionary*. Shanxi People's Press, Shanxi, China.

Teresa Mulliken, Research and Network Development Manager, TRAFFIC International

The sources of information upon which the cases below are based are cited at the end of each country section. CITES Appendix listings appear in parentheses.

Illustrations from top:  
Black Buck Antelope  
*cervicapra*; Chameleons  
*Chamaeleo* sp.

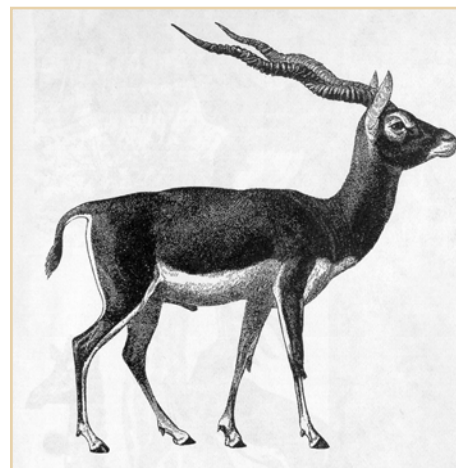
## EUROPE

### UK

Between July 1999 and January 2000, the UK CITES Enforcement Team seized a total of 220 kg of caviar from passengers arriving at Heathrow and Gatwick Airports. Iran, Russia and Dubai were the principal sources. The largest amount found on one person was 179 kg. An allowance of up to 250 g of caviar per person is exempted from CITES requirements.

On 9 August 1999, Customs officers at Heathrow Airport seized a consignment of 4500 cyclamen *Cyclamen* (App. II) bulbs that had arrived on a flight from Israel without the correct paperwork. The importer received a formal warning. The bulbs were donated to the Royal Botanic Gardens, Kew.

On 4 October 1999, a postal package arriving from Australia was found to contain five Diamond Pythons *Morelia spilota* (App. II). Four people were arrested and a number of lizards and snakes removed from several addresses; these included two Bearded Dragons *Pogona barbata*, 30 lizards (non-controlled), seven pythons (one Children's Python *Morelia childreni*, four Carpet Pythons *M. spilota* and two Green Tree Pythons *M. viridis*, (all App. II)). An investigation is under way.



On 4 November 1999, a crew of Russian seamen in transit from Morocco to Russia were stopped at Gatwick Airport. A search of their luggage revealed 22 Spur-thighed Tortoises *Testudo graeca* (App. II) and seven Mediterranean Chameleons *Chamaeleo chamaeleon* (App. II). The crew were released after questioning and the reptiles placed with zoological gardens/societies and specialist keepers.

On 10 November 1999, following up on information received from the International Primate Protection League (IPPL), Customs officers, accompanied by TRAFFIC and IPPL, raided a premises in east London and arrested two Nigerian nationals involved in the smuggling of bushmeat and seized smoked Green Monkey *Chlorocebus aethiops*, Blue Duiker *Cephalophus monticola*, African Python *Python sebae*, Asian Cobra *Naja naja*, African Large-grain Lizard *Varanus exanthematicus* (all App. II), Maxwell's Duiker *Cephalophus maxwelli* and African Brush-tailed Porcupine *Atherurus africanus*. The dead specimens had been smuggled into the country in hand luggage, and were being sold for human consumption. The case is under investigation.

On 2 January 2000, a consignment of 149 spiny-tailed lizards arriving at Heathrow Airport from Sudan, in transit to Spain, was seized after it was found to contain 68 Bell's Dabb Lizards *Uromastix acanthinurus* (App. II and subject to an EU import ban) and 81 Eyed Dabb Lizards *U. ocellatus* (App. II). The export permit accompanying the shipment identified all specimens as Eyed Dabb Lizards.

On 25 January 2000, Customs officers at Gatwick Airport intercepted a shipment in transit from Côte d'Ivoire to the USA. On inspection they found 72 pieces of elephant ivory (78 kg) carvings concealed among wooden handicrafts. Collaboration between UK and US officials led to one arrest in the USA. The case is under investigation.

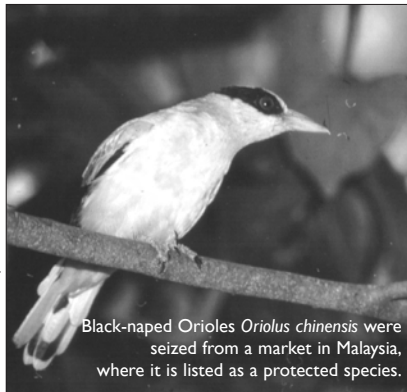
H.M. Customs & Excise CITES Enforcement Team, Heathrow;  
National Investigation Service

### FRANCE

On 8 November 1999, Customs officers at Roissy Airport, Paris, seized 600 carved ivory (App. I) items which had arrived in transit from Rwanda to Japan. The goods, contained in 10 parcels and weighing a total of 420 kg, were described as "craft items". Two Leopard *Panthera pardus* (App. I) skins were also seized.

TRAFFIC Europe





Black-naped Orioles *Oriolus chinensis* were seized from a market in Malaysia, where it is listed as a protected species.

WWF/Alain Compost

## PORTUGAL

On 18 October 1999, at a court in Lisbon, a South African and three Portuguese citizens were charged with illegal trade in ivory following their arrest on 10 October for possession of 150 African Elephant *Loxodonta africana* (App. I) tusks. The ivory was seized in Portugal during a joint South African and Portuguese operation and the case is under investigation.

TRAFFIC East/Southern Africa

## ASIA

### JAPAN

On 21 October 1999, Customs officers at Narita Airport, Tokyo, seized 92 tortoises, among which were 83 Indian Star Tortoises *Geochelone elegans* (App. II). A pet shop dealer who had bought the reptiles in Myanmar was arrested.

On 9 November 1999, Customs officers at Narita Airport, Tokyo, seized 65 tortoises, among which were seven Radiated Tortoises *Geochelone radiata* (App. I) and 58 Indian Star Tortoises. These specimens had been purchased in Bangkok.

TRAFFIC East Asia

### SOUTH ASIA INDIA

On 27 November 1999, the director of an auction house in Delhi was arrested at a hotel where he was auctioning an antique shahtoosh shawl; the owner of the shawl was also arrested. Both were charged and have been released on bail. Further seizures of shahtoosh shawls were made on 5 March (see page 54).

In early December 1999, police in Karnataka confiscated more than 600 Indian Star Tortoises *Geochelone elegans* and five Alexandrine Parakeets *Psittacula eupatria* (both App. II) in a raid on the house of a suspected smuggler.

Two of the largest seizures of Leopard skins have recently been made in India; on 20 December 1999, 50 Leopard *Panthera pardus* and three Tiger *P. tigris* skins were discovered in Ghaziabad, near Delhi, in a lorry carrying denim cloth to east India; the skins, packed in eight jute bags, bore no bullet marks indi-

cating that the animals had been captured using poison, snares or had been electrocuted. Three arrests have been made and further leads are being examined.

On 12 January 2000, in Khaga, Uttar Pradesh, local police, assisted by the Wildlife Preservation Office in New Delhi and TRAFFIC India personnel, seized 70 Leopard skins and four Tiger skins, more than 18 000 Leopard claws and 221 Black Buck *Antelope cervicapra* skins (listed as Vulnerable in the IUCN Red List of Threatened Animals). The items, recovered from a taxidermy workshop, are from animals believed to have been poisoned. Seven people were arrested. The investigation and subsequent seizure of items in this case was made possible via information provided by informants to TRAFFIC India's Enforcement Assistance Unit, which is funded by The Rufford Foundation.

TRAFFIC India

### SOUTHEAST ASIA MALAYSIA

On 29 September 1999, at the High Court in Kangar, Perlis, an appeal by Gek Sing Kallippan against sentencing for the smuggling of snakes was dismissed and gaol terms of seven days on each of three charges were increased to 14 days, to run concurrently. The judge explained that the increased prison term had to be imposed as the maximum fines set for previous cases had not been effective in curtailing snake smuggling. The original fine of RM3000 (USD790) per charge was increased to a total fine of RM11 000.

The defendant, who had acted as the attendant of a Thai-registered lorry carrying the snakes, had been convicted in April 1998 of illegal possession of 105 Asian Cobras *Naja naja* (App. II), 2441 Common Rat Snakes *Ptyas mucosus* (App. II) and faced a further charge of cruelty to animals.

On 1 February 2000, a total of 901 snakes, including Asian Cobras *Naja naja* and Common Rat Snakes *Ptyas mucosus* (both App. II) were seized during two raids in Grik; five men were arrested. Fifty tortoises were returned to the men as they were of non-protected species. According to the smugglers, the reptiles, which were being imported into Malaysia from Thailand, were for delivery to Singapore and thence to China, Taiwan and Hong Kong. Court cases are pending.

*The Sun (Malaysia), 2 February 2000; TRAFFIC Southeast Asia; The Star (Malaysia), 30 September 1999*

### THAILAND

In May 1999, the Wildlife Protection Section of the Forest Protection Division 1 (Central Division) of the Royal Forest Department seized from the premises of an exporter in Samutprakahn 561 Common Rat Snakes *Ptyas mucosus* (App. II) and the following nationally protected species: 256 Yellow-headed Temple Turtles, *Hieremys annandalii*, 135 Asian Leaf Turtles *Cyclemys dentata*, 17 Asian Box Turtles *Cuora amboinensis*, 56 Malayan Snail-eating Turtles *Malayemys subtrijuga*, 12 Black Marsh Turtles *Siebenrockiella crassicolis*, three Asiatic Softshell Turtles *Amyda cartilaginea*, 122 Copper-head Racers *Elaphe radiata*, and 602 Chinese Rat Snakes *Ptyas korros*. It is suspected that the reptiles were to be exported to Hong Kong and Malaysia, and sold domestically as food. The case is with the

police and a prosecution is pending. All specimens were released into suitable habitat or placed in Royal Forest Department Wildlife Breeding Centres.

In July 1999, following a lead from TRAFFIC Southeast Asia, the Royal Forest Department of the Forest Protection Office Division and CITES Division raided three TCM shops in the Chinatown district of Bangkok. One rhino horn weighing 70 g and 36 pieces of rhino skin totalling approximately 2.5 kg were seized. According to one storeowner, the rhino was killed in Myanmar and brought to Bangkok where it was divided up amongst various people. The rhino parts are believed to be from a Sumatran Rhino *Dicerorhinus sumatrensis* (App. I). Also seized were 13 gall bladders, originally suspected as being from bears, but which, upon forensic examination by USFWS, were found to be from pigs. Prosecutions for the rhino-related offences are pending.

In July 1999, following up on information from TRAFFIC Southeast Asia, the Royal Forest Department of the Forest Protection Office Division and CITES Division conducted a search on five stalls selling tourist items in the town of Betong, in the Yala Province, near the Malaysian border. All the stalls are owned by the same individual, and had the following Appendix I-listed items for sale, which were seized: seven Malayan Sun Bear *Helarctos malayanus*, canines, seven claws, 20 teeth; more than 100 pieces of skin (2-5 cm square) from at least one Clouded Leopard *Neofelis nebulosa*; one Leopard *Panthera pardus* skull; one Tiger *Panthera tigris*, skull, dozens of pieces of skin from at least four individual Tigers as well as 48 claws, including two fashioned into pendants, from a Clouded Leopard, Leopard or Tiger; part of an upper jaw most likely originating from a Leopard or a Clouded Leopard fashioned into a pen holder; four 10 cm elephant tusk tips (carved ivory on sale was not seized as it is legal in Thailand to sell carved ivory from domestic elephants); and, one Serow *Naemorhedus sumatraensis* horn.

Also seized were 48 claws derived from smaller wild cats, 53 canine teeth including 12 that had been fashioned into pendants; 45 key-rings made from Common Muntjac *Muntiacus muntjac* antlers; four deer teeth; one pair of Hog Deer *Axis porcinus* antlers attached to a skull made from resin; skin of one Red Giant Flying Squirrel *Petaurista petaurista*; and, 13 quills from the Malayan Porcupine *Hystrix brachyura*. Prosecutions are pending.

One of the most commonly sold freshwater turtle species in Peninsular Malaysia is the Asian Box Turtle *Cuora amboinensis*, which is harvested for food. Most specimens are taken from the wild where they are commonly found in rice fields, swampy areas and streams in rubber and oil palm plantations. They are often found in temple ponds which serve as turtle depositories for people who believe that the act of rescuing a turtle (for example, picking up a specimen from the road) and sending it to a temple will bring them good fortune or long life.

Photo: Chris R. Shepherd/TRAFFIC



TRAFFIC/Lochten

In July 1999, the Royal Forest Department's CITES checkpoint staff seized the following wildlife products at Poi Pet, in Sak Keaw Province, near the Cambodia border: two quartered Common Muntjacs *Muntiacus muntjac*; two de-scaled Pangolins *Manis* spp; and one whole charred civet. Prosecutions are pending.

In November 1999, the following nationally-protected species were confiscated by the Wildlife Protection Section of the Forest Protection Division 1 (Central Division) of the Royal Forest Department. The animals were confiscated from two shops in Samut-prakahn, approximately 15 km from Bangkok. Both shops were owned by the same person. Species seized include 10 Yellow-headed Temple Turtles *Hieremys annandalii*, 154 Asian Box Turtles *Cuora*

On 25 December 1999, the Wildlife Protection Section of the Forest Protection Division 1 (Central Division) of the Royal Forest Department, carried out raids at the Miniburi Market, situated some 20 km from Bangkok. The following CITES Appendix II-listed and/or nationally protected birds were seized from five stalls: one Hill Myna *Gracula religiosa* (App. II); five Vernal Hanging-Parrots *Loriculus vernalis* (App. II); two White-crested Laughingthrushes *Garrulax leucolophus*; eight Greater Necklaced Laughingthrushes *G. pectoralis*; seven Lesser Whistling-Ducks *Dendrocygna javanica*; seven Thick-billed Green-pigeons *Treron curvirostra*; three Grey-headed Parakeets *Psittacula finschii*; three Large Hawk-Cuckoos *Cuculus sparverioideus*; two Asian Koels *Eudynamis scolopacea*; one Green-eared Barbet *Megalaima faiostrica*; five Copper-smith Barbets *M. haemacephala*; four Lineated Barbets *M. lineata*; two Greater Yellownapes *Picus flavinucha*; two Blue-winged Leafbirds *Chloropsis cochinchinensis*; 16 Red-whiskered Bulbuls *Pycnonotus jocosus*; one Black Drongo *Dicrurus macrocercus*; nine Black-naped Orioles *Oriolus chinensis*; nine Asian Fairy-bluebirds *Irena puella*; one Eyebrowed Thrush *Turdus obscurus*; 11 Golden-crested Mynas *Ampeliceps coronatus*; and, five Black-headed Munias *Lonchura malacca*.

The birds were released or placed with Royal Forest Department Breeding Centres. All cases have been turned over to the local police and prosecutions are pending.

TRAFFIC Southeast Asia

## VIETNAM

The volume of trade in wildlife in Vietnam remains high despite the efforts of the under-resourced local enforcement agencies. Statistical records provided to TRAFFIC Southeast Asia-Vietnam by the Forest

## Reptiles make up the greatest proportion of all animals found in trade in Vietnam

*amboinensis* and 147 Malayan Snail-eating Turtles *Malayemys subtrijuga*. All specimens were released or placed with Royal Forest Department Wildlife Breeding Centres. The turtles were intended to be sold for release, according to a Buddhist practice. The case is with the police and prosecutions are pending.

Protection Department (FPD) on wildlife confiscations in 21 provinces (calculated by provincial FPD officials as numbers of individuals or by weight) numbered 1267 specimens and 6244 kg between June and December 1999. The department cannot provide names of species as the records are non-specific. However, some CITES-listed species were recorded, including 127 kg of live pangolins *Manis javanica* or *M. pentadactyla* (App. II), 220 kg of live crocodiles *Crocodylus porosus* or *C. siamensis* (App. II/I), two bears *Ursus thibetanus* or *Helarctos malayanus* (both App. I), one Binturong *Arctictis binturong* (App. III) and one Leopard *Panthera pardus* (App. I).

Although the FPD is unable to identify all the species, the data still illustrate the current status of wildlife trade in the country, with reptiles representing the highest proportion. According to FPD statistics, 866.5 kg and 73 reptile specimens - under the categories of snake, turtle, tortoise, monitor lizard - were seized during this period. The agency indicates that the reptile seizures were most likely en route to China to satisfy demand for food and medicine. It states that the actual total number of confiscations for the 61 provinces in Vietnam should be much higher.

TRAFFIC Southeast Asia

## AFRICA

## SOUTH AFRICA

Hartmut Möhr of Ebsdorfergrund, Germany, has been charged under the *Western Cape Nature Conservation Ordinance* (Ordinance 19 of 1974) of exporting Angulated Tortoises *Chersina angulata* (App. II) without the necessary permits. He was sentenced to a fine of R10 000 (USD1625) or 18 months' imprisonment. His conviction comes after an incident in 1997 when Cape Nature Conservation confiscated two parcels at Cape Town International Airport: one contained 15 girdled lizards Cordylidae, and the other five Angulated Tortoises. Both packages were addressed to Möhr, who, together with his alleged accomplices, had left South Africa by the time the parcels were discovered. He was arrested following an investigation by the South African Endangered Species Protection Unit (ESPU), Cape Nature Conservation and the Northern Cape Nature Conservation Service. As Möhr had been a suspect in the 1997 case, the German Customs investigation office advised ESPU on 7 October 1999 that he had again entered the country. Möhr and his companions were followed for days prior to the arrest of Möhr and another man at Vioolsdrif when they tried to cross the border into Namibia; a third suspect was arrested at Clanwilliam. Möhr's address and handwriting on the parcels and his credit card payment for the postage of the parcels linked him to the tortoise incident. Owing to lack of evidence, his companions were not prosecuted.

On 29 September 1999, Czech citizen Petr Pavelka was arrested for illegal possession of succulents. Cape Nature Conservation staff acted on information received from the local community on Pavelka's activities on the Knersvlakte, an area within Namaqualand. He was caught with 149 protected succulents, including some endemic species that were discovered and described only recently. Pavelka was sentenced under the *Western Cape Nature Conservation Ordinance* (Ordinance 19 of 1974) to a R3000 (USD488) fine or an eight-month prison sentence, suspended for five years. Pavelka paid the fine. Collectors of flora in the province have to apply for permits from Cape Nature Conservation, and must also obtain written approval from the landowner.

On 22 December 1999, the longest-ever sentence for poaching in South Africa was imposed at a regional court when Shalate Khoza was given a 20-year gaol term following his arrest in July, in Kruger National Park; he received a further 10-year sentence for an earlier poaching offence.

Khoza had been found in possession of elephant meat, an automatic rifle and ammunition in Kruger National Park, in July. Subsequent to his arrest, he took wardens to the carcass of a bull elephant he had shot for its 65 kg tusks which he had removed. For these offences, Khoza was sentenced to 10 years' imprisonment for killing an elephant and 10 years' for arms-related offences.

At the time of his arrest, Khoza was wanted for killing a Black Rhinoceros *Diceros bicornis* (App. I) in the park in 1998. For this offence he was sentenced to 10 years' imprisonment. The 10- and 20-year terms will run concurrently.

TRAFFIC East/Southern Africa; Reuters News Agency





## OCEANIA

## AUSTRALIA

On 16 November 1999, Customs officers at Perth International Airport arrested German nationals Ralf Thomas Andres and Tanja Herter and charged them with attempting to smuggle wildlife out of the country contrary to the *Wildlife Protection (Regulation of Imports and Exports) Act 1982*.

The pair were picked up prior to boarding a flight to Mauritius, after hand luggage passing through X-ray was found to contain three Shingleback Lizards *Tiliqua rugosa* in two pencil cases; inspection of other bags belonging to Andres revealed three Oblong Turtles *Chelodina oblonga* and four eggs. During interrogation, Andres admitted that he had collected the animals for his personal collection. He had no knowledge of the eggs and insisted that Harter had played no part in the scheme. Officers of Western Australia's Department of Conservation and Land Management are caring for the animals.

On 10 February 2000, at Broadmeadows Magistrates' Court, Ales Havelka of the Czech Republic was charged under the *Wildlife Protection (Regulations of Imports and Exports) Act 1982* and Victoria's *Wildlife Act 1975* for attempting to export geckos *Gekko* spp. and sentenced to one month's imprisonment.

Customs officers intercepted Havelka prior to his departure from Melbourne Airport on 7 February. He was found to be carrying 31 geckos in small pouches in his pockets. He revealed that he had been detained in other countries for similar offences.

Australian Customs Service, Perth; TRAFFIC Oceania

## AMERICAS

## ECUADOR

On 10 December 1999, 750 kg of sea cucumbers were seized from a boat headed for the dock of Caraguay market, Guayaquil. The harbour master, alerted by a staff member of the Galapagos National Park, boarded the boat prior to its docking and discovered the sea cucumbers, a box of shark fins (12.5 kg), and lobsters that were below the minimum size permitted to be caught. The shipment, from San Cristobal, in the Galapagos, is currently in storage in Guayaquil under the control of the General Direction of Fisheries; the boat has been detained in Guayaquil. The trial of the ship's owner continues.

The sea cucumber fishery in the Galapagos was opened up for the period 1 April to 31 May 1999, with shipment to the mainland allowed until 9 June 1999 (TRAFFIC Bulletin 18(1):10).

El Comercio (Ecuador), 12 December 1999

## USA

On 4 November 1999, a federal jury at Brooklyn, New York, marked the first successful criminal prosecution in the USA upholding CITES provisions - enacted on 1 April 1998 - that require that caviar imports to CITES Parties be accompanied by CITES permits from the exporting nation.

Eugeniusz Koczuk, the owner of Gino International, an import company in Stamford, Connecticut, was found guilty of smuggling caviar into the USA; Koczuk's business associate, Wieslaw Rozbicki, was convicted of one felony violation of

the *Lacey Act*. A third individual, Polish national Andrzej Lepkowski, who was Warsaw's deputy police chief at the time of his arrest, pleaded guilty to conspiracy to smuggle wildlife.

Koczuk and Rozbicki ignored the new wildlife trade controls and paid off-duty airline employees to smuggle suitcases packed with caviar tins into the USA (TRAFFIC Bulletin 18(1):34). On 28 October 1998, federal investigators acting on a tip-off met an inbound flight from Poland and apprehended seven couriers whose 16 suitcases contained 450 kg of caviar; another 450 kg were later seized at Koczuk's home. Investigators found that between 1 April and 3 November 1998, Koczuk's company, Gino International, sold 9450 kg of caviar although import/export declarations filed with the USFWS show that the company legally imported only 38 kg during this period. The trial date has not been set.

On 18 November 1999, at the federal court in Fort Lauderdale, Florida, Dwayne D. Cunningham and Robert A. Lawracy, were charged with illegal trade in Caribbean reptiles. The pair had been found guilty in May 1999 of conspiring with one another to violate the *Lacey Act*, the federal smuggling statute, and CITES. Cunningham was also sentenced for having sold two smuggled ground iguanas *Cyclura* spp. (App. I) and Lawracy was sentenced for illegally importing 49 undersized Red Footed Tortoises *Geochelone carbonaria* (App. II). Cunningham was sentenced to 14 months' imprisonment and Lawracy to 24 months' imprisonment.

On 2 December 1999, in the first successful felony prosecution in the USA for illegal trade in corals, Petros Leventis was sentenced in the district court, Tampa, Florida, to 18 months' imprisonment for illegally importing corals and seashells from the Philippines. He was further sentenced to three years' supervised release and fined USD5000 and a USD200 special assessment for his role in a smuggling operation that used false declarations, invoices, and shipping documents to circumvent trade restrictions. His company, Greek Island Imports Inc., a giftshop selling ocean products, was fined USD25 000 and USD800 special assessment, and given five years' probation.

USFWS agents have documented transactions between Leventis and the owner of a Philippine seashell and souvenir exporting business going back six years. In November 1998, the pair were indicted on smuggling and wildlife charges. In February 1999, the Justice Department filed papers with the Philippines seeking the extradition of the Philippine exporter.

The species targeted by Leventis included blue coral *Heliopora* spp., organ-pipe coral *Tubipora* spp., staghorn *Acropora* spp., brown stem coral *Pocillopora* spp., mushroom and feather corals *Fungiidae* (all App. II).

The Philippines banned the export of coral in 1997 and the USA bars importation without a valid export permit from the country of origin.

Recent recommendations to the US Coral Reef Task Force on potential ways to reduce threats to coral that are associated with trade are outlined in the box (left).

The USFWS and the US Justice Department are participating in the US Coral Reef Task Force (CRTF) (a coalition of federal agencies) and with other coral reef nations and the global CITES community to reduce threats to reefs, including those associated with trade. In December 1999, the USFWS which, together with the US Department of Justice co-chairs the trade subgroup of the CRTF, held a public meeting to discuss the US role in the coral trade and determine whether additional legislation is deemed to be necessary to ensure a sustainable trade. As a result, the subgroup put forward a series of recommendations to the Task Force on 2 March, among which were the following:

- import/export, and domestic harvest bans for CITES-listed coral reef species which are not either sustainably managed or from environmentally sound mariculture/aquaculture programmes, with some exceptions;
- possible extension of these bans to other coral reef species;
- prohibitions on destructive fishing of species destined for domestic and external markets;
- work with stakeholders to develop responsible practices and guidelines for collection and transport of coral reef species to reduce mortality rates;
- development of a co-ordinated national strategy for conservation and sustainable management of coral reef species and ecosystems within the USA; and,
- work with the international community to share this strategy and develop criteria for coral reef ecosystems globally.



Staghorn coral/WWF/Tony Rath

TRAFFIC North America; US Fish & Wildlife Services Press Releases 13 August/4 November/2 December 1999 US Dept of Justice News Release, 18 November 1999; USFWS in litt., 13 March 2000

**Slipping the Net: Spain's Compliance with ICCAT Recommendations for Swordfish and Bluefin Tuna**  
TRAFFIC *Species in Danger* report. 1999. *Caroline Raymakers and Jacqui Lynham*. Available from TRAFFIC International

This report presents findings of an investigation of Swordfish and Northern Bluefin Tuna fisheries carried out on Spanish landing sites in the Mediterranean and Atlantic. It points out the implementation and enforcement gaps remaining in ICCAT and EU conservation and fishing regulations, and recommends remedial actions.



Miguel Murcia



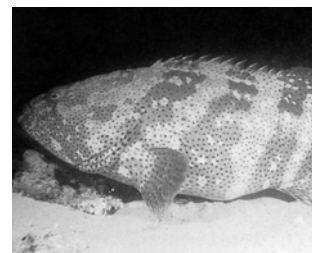
A.L. Gaski

International fisheries regimes relevant to the management of highly migratory fish stocks in the Indian and Southern Oceans are examined in this report in order to establish whether such regimes incorporate mechanisms that are considered necessary to manage a fishery at sustainable levels.

**Sustainable Use of Large Migratory Fish in the Southern and Indian Oceans: Gaps in the International Legal Framework**  
TRAFFIC Oceania.  
Available on the TRAFFIC website: [www.traffic.org](http://www.traffic.org).

**Fishing for Solutions: Can the Live Trade in Wild Groupers and Wrasses from Southeast Asia be Managed**  
TRAFFIC Southeast Asia 1999. *Nokome Bentley*. Available from TRAFFIC Southeast Asia

Indonesia, the Philippines, Malaysia and Singapore, as the four major Southeast Asian countries involved in the live food reef fish industry, were included in this 1997 study, which shows widespread over-exploitation of fish stocks in the region. The use of destructive fishing methods is also examined.



Alfred LijSDJ



Chris R. Shepherd

The trade in turtles in Peninsular Malaysia involves the eggs and flesh of these reptiles either for food or for medicinal purposes, and live animals for the pet trade. Most species found in domestic markets are from the wild and large numbers are exported. If the harvesting of some of these species continues at current levels, the report concludes that it will not be long before localized extinctions occur.

**Tortoise and Freshwater Turtle Trade and Utilisation in Peninsular Malaysia**  
TRAFFIC Southeast Asia 1999  
*Dionysius S.K. Sharma*  
Available from TRAFFIC Southeast Asia

**Far From a Cure: The Tiger Trade Revisited**  
TRAFFIC *Species In Danger* report. 2000. *Kristin Nowell*. Available from TRAFFIC International

This report follows the highly successful 1994 TRAFFIC report *Killed For A Cure: A Review of the Worldwide Trade in Tiger Bone*. Since publication of that report, definite progress has been seen in some aspects of trade control but problems still exist. The report examines to what extent illegal trade in Tiger bone can still be considered the leading threat to the Tiger's survival, and looks at markets for live Tigers and other Tiger parts and products besides bone.



Ian Ledgerwood/WWF-UK

# International Declaration for the Conservation of and Control of Trade in the Tibetan Antelope

*The first international workshop to focus on the protection and control of trade in Tibetan Antelope wool was held in Xining, China, in October 1999. The Xining Declaration drawn up and approved at this meeting is reproduced below.*

## Xining Declaration

### On the Conservation of and Control of Trade in the Tibetan Antelope

12-14 October 1999, Xining, China

Co-sponsored by the Endangered Species Import and Export Management Office of the People's Republic of China and the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the International Workshop on the Conservation of and Control of Trade in Tibetan Antelope, was held in Xining, China, from 12 to 14 October 1999, with the purpose of promoting international co-operation to save the endangered wild populations of Tibetan Antelope *Pantholops hodgsonii*.

Participating in this Workshop were government representatives from China, France, India, Italy, Nepal, the UK and the USA and representatives from the CITES Secretariat, China Wildlife Conservation Association (CWCA), International Fund for Animal Welfare (IFAW), Tibetan Plateau Project (TPP), TRAFFIC, Wildlife Conservation Society (WCS), Wildlife Protection Society of India (WPSI) and World Wide Fund for Nature (WWF), as well as experts and scholars specializing in the study and protection of this species. The international workshop was the first of its kind to focus on the protection and control of trade in Tibetan Antelope. The meeting collected a large amount of first-hand information on the status of the wild population, poaching and illegal trade (i.e. smuggling, processing, selling and offering for sale of parts and derivatives of Tibetan Antelope, especially shahtoosh, the fine wool of the animal, and all products made from it). Comprehensive and practical discussions were held during the meeting. The participants of the international workshop reached the following consensus:

**Aware** that the diversity of wild fauna and flora resources is a result of evolution over a long time, and is an irreplaceable component of the earth's natural system, having invaluable significance to the sustainable development and long-term survival of humanity;

**Considering** that the wild populations of Tibetan Antelope, mainly found on China's Qinghai-Tibet Plateau, are an important component of the ecosystem of the region, having significant value in scientific research, ecological balance and even culture and aesthetics, humanity has the responsibility to protect this precious species;

**Noting** that large-scale poaching and slaughter of Tibetan Antelopes has been occurring since the late 1980s. In spite of existing measures adopted by the Chinese Government, poaching and smuggling have continued and the species' population size is declining at an alarming rate. It was agreed that international and multi-agency approaches will be required to arrest the decline.

**Recognizing** that the consumer markets for parts and derivatives of Tibetan Antelope, especially shahtoosh shawls and the high profits brought by such markets are the fundamental reasons leading to continued large-scale poaching of the wild populations of Tibetan Antelope;

Photograph: George Schaller





**Also noting** the strict provisions of CITES on the management of the import and export of wild fauna and flora, Tibetan Antelope having been listed in Appendix I of CITES since 1979 and that it should be strictly protected according to the Convention;

**Further noting** that all countries participating in the workshop are Parties to CITES, and have an equal obligation to implement the Convention;

## PARTICIPANTS:

**Recognize and appreciate** the efforts and achievements made to date by the Government of China and other governments, inter-governmental organizations and international and national non-governmental organizations to protect the Tibetan Antelope and crack down on poaching, smuggling and illegal production and/or consumption of parts and derivatives of the Tibetan Antelope, especially shahtoosh shawls. Participants also recognize that anti-poaching and population monitoring efforts deserve more support; and

**Agree** that the total eradication of production of and markets for shahtoosh and its products is the key to the survival of Tibetan Antelope;

## PARTICIPANTS APPEAL:

1. to all countries to ban internal trade in parts and derivatives of Tibetan Antelope especially shahtoosh and to instigate registration schemes for already existing stocks, in compliance with domestic legislation;
2. to the Conference of the Parties to CITES at its 11th meeting to adopt a resolution urging all Parties to strengthen law enforcement to control trade in parts and derivatives of Tibetan Antelope especially shahtoosh. A draft resolution was discussed by delegates;
3. in particular to relevant countries to:
  - a) co-ordinate action by conservation and law-enforcement agencies;
  - b) make every effort to intercept illegal shipments of parts and derivatives;
  - c) recognize that ban on internal trade may instigate illicit black markets;
  - d) make full use of existing law enforcement networks such as ICPO-Interpol (International Criminal Police Organisation), and World Customs Organization (WCO) and to provide relevant information to these inter-governmental agencies.

The Tibetan Antelope is found

in treeless elevations above

5000 m in Tibet and in areas

of northwest India bordering

Tibet. The name given to the

animal's wool - shahtoosh - is

derived from two Persian

words: "shah" (emperor) and

"toosh" (nature). The wool is

handspun and woven into

shawls and scarves in

Kashmir, where the trade

remains legal, and the finished

products exported to

Delhi and the Punjab



4. to all relevant countries to engage in public education and awareness campaigns emphasizing that the trade in shahtoosh is unlawful and has resulted in the alarming decline in wild populations of Tibetan Antelope;

5. to relevant countries to co-operate with and utilize the experience and influence of national and international non-governmental organizations in the field of conservation, combating illicit trade and raising public awareness of the plight of the Tibetan Antelope;

6. to the international community for the provision of support to range, manufacturing and transit States in their efforts to protect the Tibetan Antelope and to crack down on poaching, processing and smuggling; and

7. to all range countries, especially China, with support from the international community, to improve or develop a conservation management plan for the Tibetan Antelope and its habitat and to strengthen implementation.

## RECOMMENDATIONS FOR ACTION

### I CONSUMER COUNTRIES

#### A. Enforcement

1. A fundamental need is to improve co-ordination of information through Interpol and WCO by using the existing enforcement networks to increase the profile of the shahtoosh trade within enforcement agencies.

2. Training seminars should be arranged by CITES Management Authorities at a national level. These should cover: a) background to the shahtoosh trade; b) identification of shahtoosh

An identification kit should be produced to include:

- shahtoosh sample of 50 x 50 cm
- sample of the raw wool
- CITES Identification Manual sheets
- microscope and slide
- information on how to proceed and obtain expert identification assistance.

3. National enforcement networks should be used to disseminate intelligence information. Enforcement agencies should use contacts in the fashion world, fashion media, to carry out surveys and undercover research with a view to developing intelligence-led targeting of supplies.

4. Customs officers should target tariff headings 64, 14 and 20 for examination, especially where the country of origin is a shahtoosh supplier.

5. Enforcement in consumer countries needs to be properly researched, and enforcement agencies need to be better informed.

#### B. Public awareness and demand reduction

1. Consumer countries should highlight the destructive nature of the trade and urge people not to use shahtoosh products, while efforts can be made to popularize alternatives to shahtoosh, such as pashmina [the wool derived from a domesticated goat].

2. All CITES Management Authorities in consumer countries should be encouraged to publish information on the shahtoosh trade. This would cover:

- the true origins of shahtoosh
- the threat posed to the Tibetan Antelope in China
- penalties for illegal trade
- awareness of legal shahtoosh alternatives.

3. Information should target the following groups:

- traders in high quality woollen goods
- fashion industry
- travel companies
- airlines for in-flight videos.



Some 207 shahtoosh shawls were seized from retail outlets and a hotel room in December 1997 and January 1999. The traders involved were convicted and one received a three-month prison sentence and was fined HKD300 000 (USD38 687).  
Inset: the fleece of the Tibetan Antelope.

Photographs: Agriculture, Fisheries and Conservation Department, Hong Kong Special Administrative Region; Inset: TRAFFIC India

4. Awareness-building programmes for the general public will need photographs and video of Tibetan Antelope from China and up-to-date information on anti-poaching initiatives. Media in consumer countries need to have contacts in the Chinese media.

5. Specific anti-shahtoosh campaigns should be launched jointly between NGOs and CITES Management Authorities and enforcement agencies. These should use celebrities and prominent figures in the fashion world. Internet should also be used.

6. Campaigns should attempt to educate a sophisticated audience rather than accuse people of being criminals or animal abusers.

## II MANUFACTURING COUNTRIES OF SHAHTOOSH PRODUCTS AND COUNTRIES ON THE SMUGGLING ROUTE OF THE WOOL (SHAHTOOSH) (with India as the leading, if not only, manufacturing country, and China, India and Nepal on the transiting route)

### A. Manufacturing/processing

1. The workshop urges the Indian Government to ban processing of shahtoosh throughout the country at the earliest opportunity.
2. A letter from the CITES Secretariat and from the Chairman of the CITES Standing Committee be sent to the Government of India urging them to ban the processing of shahtoosh in all parts of India.
3. The workshop feels that a Resolution as drafted and discussed at the International Workshop should be adopted at the 11th meeting of the Conference of the Parties to CITES in order to progress the issue.
4. All countries should exercise vigilance to ensure that no illegal processing of shahtoosh either now or in the future is carried out in their countries.

### B. Smuggling and transborder issues

1. Identify crucial illegal trade routes and methods used by smugglers.
2. Exchange of information on smuggling (such as routes, methods, etc.) between China, India and Nepal on a regular basis. Each country will provide details of seizures for analysis and upgrading information on probable trade routes and smuggling methodology.
3. Customs and wildlife officers will be identified by China, India and Nepal at critical border points for direct contact for any emergency action.
4. Periodic confidential meetings between the Customs, wildlife and other enforcement agencies for exchange of information and strategic planning of action.

5. China, Nepal and India should adopt a tri-lateral agreement for co-ordinated efforts for protection and conservation of Tibetan Antelope and control of the illegal trade in its parts and derivatives, especially shahtoosh. Representatives of the Governments of China, India and Nepal agree to initiate the process for such an agreement.

### C. Internal trade

China, India and Nepal have agreed to crack down on illegal internal trade in species listed in Appendix I of CITES, particularly trade in shahtoosh.

### D. Awareness and training

1. India and Nepal will concentrate on increasing awareness of the negative impact of shahtoosh trade on the survival of the Tibetan Antelope, which is declining at an alarming rate as a result of the illegal trade.
2. India and Nepal will also create public awareness of the penalties that buyers and dealers may face for indulging in these illegal activities.
3. Enforcement training workshops on illegal trade for Customs officers and wildlife officers will be organized. Such workshops should involve both the high level and the front-line staff level to improve enforcement and discuss responsibilities, legislation, disposal of seized goods, etc. ICPO-Interpol (particularly through Eco-Message) and World Customs Organization will be involved.
4. Training materials (for example on methods of detection, intelligence gathering, etc.) will be exchanged between China, India and Nepal. (See recommendations on awareness efforts for China below)

## III RANGE COUNTRY (CHINA)

### A. Anti-poaching

1. In co-ordination with the Public Security, Court, Customs and the State Environment Protection Administration, the State Forestry Administration should take the lead to develop a comprehensive strategic plan on anti-poaching and anti-smuggling.
2. A joint committee should be formed by the three range provinces of Qinghai, Tibet and Xijiang to co-ordinate conservation and anti-poaching activities for the Tibetan Antelope and develop action plans.
3. Current status and needs for support should be evaluated to improve institutional capacity and facilities. Based on these needs, international and domestic co-operation and funding support will be sought, i.e. helicopters, off-road vehicles and satellite phones.



4. Consideration may be given to the possibility of deploying the military of China, as the co-operation of the police, reserve and military has proved effective in other parts of the world.

5. New technology may be used, such as satellite photography and satellite observation on population and poaching.

## B. Anti-smuggling

1. Strengthen detection and information exchange on routes and ways of smuggling and transportation. Increase border control on smuggling routes.

2. Strengthen co-operation and communication among Customs in relevant countries.

3. Technical training should be provided for Customs officers, especially on rapid identification techniques.

4. At both national and provincial levels, specialized wildlife enforcement units should be created. The units should play a role in co-ordination. A CITES enforcement task force should be formed, with Tibetan Antelope and illicit trade as one of its tasks.

5. Confiscated shawls could be marked and circulated in the market to find out more information on the trade as part of covert operations.

## C. Conservation

1. A National Conservation Plan for Tibetan Antelope should be developed through a multi-agency approach. On the basis of the plan, international support and co-operation should be sought for its implementation. Being a flagship species, conservation of Tibetan Antelope can play a role in the conservation of other wildlife and the ecosystem of Qinghai-Tibet Plateau as a whole.

2. Priority should be given to the protection of the key habitats of Tibetan Antelope, i.e. mating sites, calving sites, and migration routes. Livestock grazing should also be managed to limit the impact on Tibetan Antelopes.

3. Protected areas for Tibetan Antelope should be expanded, especially the west of Arjinshan and Kekexili nature reserves. Co-ordination needs to be strengthened in the management of the three reserves and an integrated master plan should be developed. Efforts need to be made to include the whole range of the species into the "Man and Biosphere" programme of UNESCO to improve the international recognition.

4. A new anti-poaching system should be instituted which involves the participation of local communities.

5. A population survey and monitoring should be conducted. Training should be provided to associated staff.

## D. Public awareness

1. China will continue to enhance public awareness on the importance of Tibetan Antelope in the ecosystem and for future generations, and awareness of existing laws on the conservation of Tibetan Antelope, and to make people aware of the penalties.

2. Special efforts will be made to improve awareness of local residents and encourage them to provide information to the relevant authorities on the poaching and smuggling of Tibetan Antelope and its parts and derivatives, particularly shahtoosh. An incentive system should be established to reward informants.

3. Training and education should also be provided to reserve staff/patrollers.

4. Publicity should be tightened in key areas where traders may pass, e.g. restaurants and hotels on the smuggling routes and border crossings.

5. There should be poverty alleviation and publicity campaigns in the home towns of poachers.

6. Publicity materials should be developed, for use both in China and, whenever possible, outside China, including photographs and video of Tibetan Antelope from China and up-to-date information on anti-poaching initiatives. Contact between the media in China and in consumer countries should be established.



Photograph: George Schaller



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**IUCN**  
The World Conservation Union

The TRAFFIC Network is the world's largest wildlife trade monitoring programme with offices covering most parts of the world. TRAFFIC is a programme of WWF- World Wide Fund for Nature and IUCN-The World Conservation Union, established to help ensure that trade in wild plants and animals is not a threat to the conservation of nature. It works in close co-operation with the Secretariat of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

The TRAFFIC Network's international headquarters is co-located in the United Kingdom with the World Conservation Monitoring Centre.

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