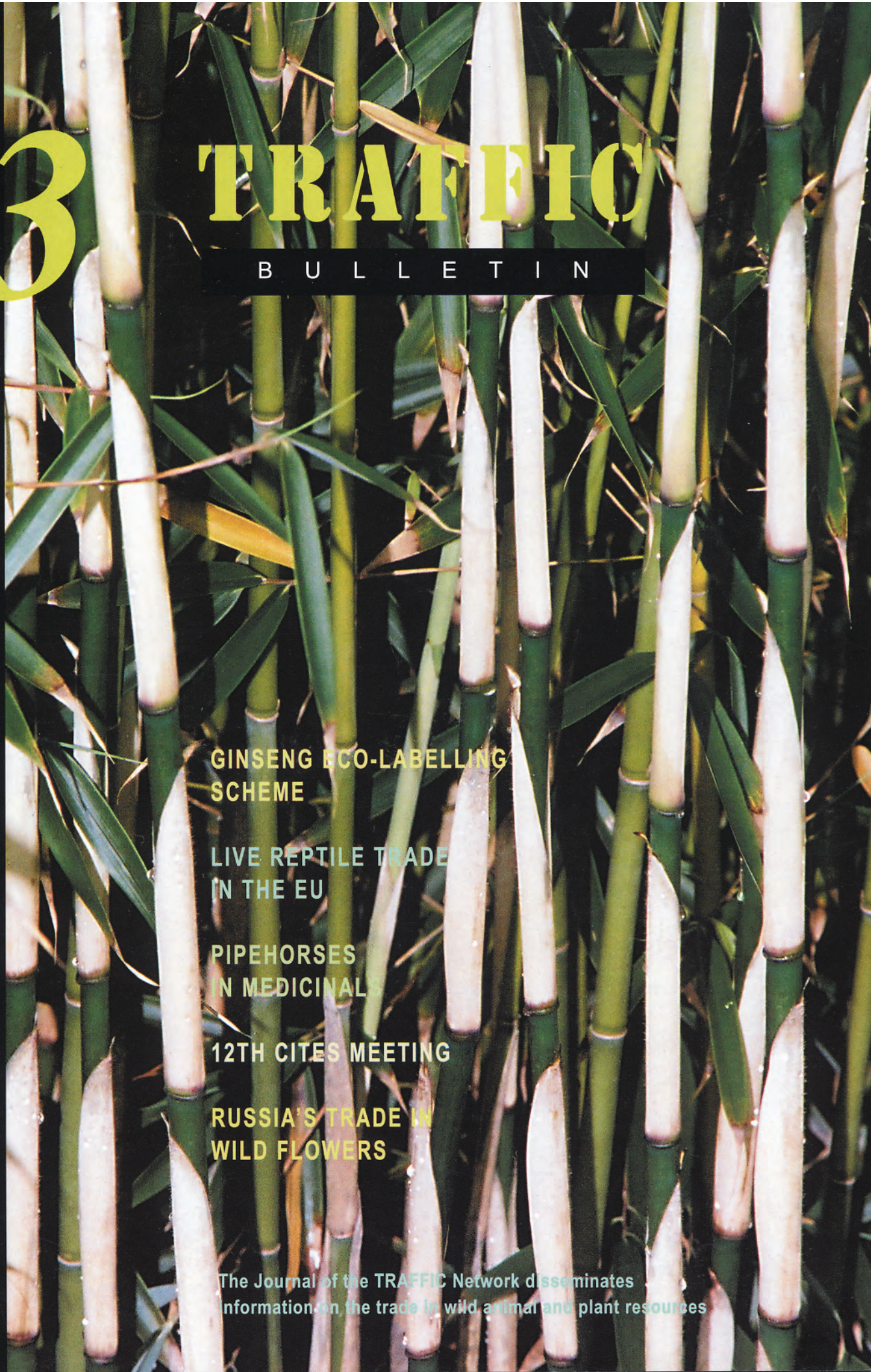
VOL. 19 NO. 3

TRAFFIC BULLETIN



GINSENG ECO-LABELLING SCHEME

LIVE REPTILE TRADE IN THE EU

PIPEHORSES IN MEDICINALS

12TH CITES MEETING

RUSSIA'S TRADE IN WILD FLOWERS

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

NOVEMBER 2003

The *TRAFFIC Bulletin* is a publication of TRAFFIC, the wildlife trade monitoring network, which works to ensure that trade in wild plants and animals is not a threat to the conservation of nature. TRAFFIC is a joint programme of

WWF IUCN The World Conservation Union

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.

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Cover illustration:
Thamnocalamus robusta (K. Lochen/TRAFFIC)

This page, from top:
Monkey Puzzle Tree *Araucaria araucana* (K. Lochen/TRAFFIC)
Dried pipehorses *Solegnathus* (S.K. Lee/TRAFFIC)
Snowdrop *Galanthus* leaves (K. Lochen/TRAFFIC)

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EDITORIAL

After timber, fisheries is the most valuable commodity sector in wildlife trade, globally worth an estimated USD55.2 billion in 2000 according to the United Nation's Food and Agriculture Organization (FAO). Reflecting the importance of fisheries in global trade and the growing pressure on these resources, the 12th meeting of the Conference of the Parties to CITES, held in Chile in November 2002, considered a range of issues relating to marine fisheries, including five Appendix II listing proposals and a number of resolutions. The decisions arising from these deliberations will require a range of actions to be taken over the next couple of years. These will include addressing implementation issues concerning the listing of Whale Shark *Rhincodon typus*, Basking Shark *Cetorhinus maximus* and seahorses *Hippocampus* spp., finalizing the Memorandum of Understanding between CITES and FAO, and moving forward with the consideration of marine species in the review of the criteria to amend the CITES Appendices. Importantly, these specific actions will also play a part in developing the complementary role CITES will play in strengthening the application of trade-related measures in fisheries agreements and in particular those dealing with large-scale commercial marine fisheries.

It was encouraging that during the 12th meeting of the Conference of the Parties discussion and debate on the individual fish listing proposals moved beyond the principle routinely advocated by some Parties that CITES is an inappropriate tool to apply to marine fisheries. Instead, the majority of the debate centred on whether a species met the listing criteria and the potential conservation benefits from a listing. The number of listings, Resolutions and Decisions adopted by the Parties should signal the beginning of a new phase in the consideration of marine fisheries issues under CITES - from questions of *whether* CITES should be engaged to questions of *how* it should best engage.

However despite the progress made at this meeting, there has since been a backlash against CITES within some fisheries circles, most significantly at the biennial meeting of the FAO's Committee on Fisheries in February 2003. In discussion of the content of the proposed Memorandum of Understanding between CITES and FAO, tension arose between those members promoting wording to limit the scope of any CITES engagement in marine fisheries and those wishing to explore wording that would promote the development of a complementary relationship. There was perhaps no clearer demonstration of the bridges that remain to be built between CITES and fisheries management agencies than the lack of agreement among FAO member States to allow the representative from the CITES Secretariat to observe a working group discussion on the draft MoU. Evident in many of the interventions at the FAO Committee on Fisheries meeting and in other fisheries fora is an inconsistency in approach existing within some countries whereby a different policy position is advocated in different fora. At best this may reflect poor communication within governments and at worst deliberate attempts to obfuscate the process and retard progress.

Of interest in this debate is that over the past decade there has been a growing move by Regional Fisheries Organizations (RFOs) to use trade-related measures as a complement to those measures designed to control fishing activities taking place at sea. There has also been a growing body of international policy in support of such measures, most significantly the FAO's International Plan of Action to Prevent, Deter and Eliminate Illegal, Unreported and Unregulated Fishing, which was adopted by the Committee on Fisheries in 2001. Technical consultations are also well advanced to consider how to strengthen the role of port and market States in conserving and managing fisheries resources (particularly those of the high seas). It would be disappointing if the outcomes of these consultations failed to chime with the capacity that already exists within CITES to regulate the trade in wildlife products, where appropriate, as a complement and support to other fisheries instruments.

Regardless of the management regime in place, and any role that CITES may play in that process, where a fishery's products are globally traded there will often be a need for some degree of international co-operation to ensure its long-term sustainability. The need for such co-operation was highlighted by the three-week pursuit in August 2003 by an Australian patrol vessel of a fishing vessel suspected of illegally fishing for Patagonian Toothfish *Dissostichus eleginoides* in Australian waters. Offers of assistance from other countries ranged from the deployment of vessels to assist in the apprehension, to the closure of markets to suspected illegal toothfish products. In the absence of such effective co-operation, sustainable management of the trade in fisheries products is unlikely to be successful.

Over the coming months, and with support from The David and Lucile Packard Foundation, TRAFFIC intends to publish the results of its analysis of the rationale for the introduction of trade-related measures by RFOs and the effectiveness of these measures in combating illegal, unreported and unregulated (IUU) fishing.

The 13th meeting of the Conference of the Parties to CITES in October 2004 will be the next major test of the Convention's engagement with fisheries issues.

Anna Willock, Senior Fisheries Advisor,
TRAFFIC Oceania

STAFF and OFFICES

ROB PARRY-JONES, formerly Senior Programme Officer at the TRAFFIC East Asia Regional Office in Hong Kong, was appointed the Co-ordinator of a TRAFFIC Oceania CITES Capacity Building project based in Suva, Fiji, in January 2003.

bulletin board

SUON PHALLA, Programme Officer in Cambodia for TRAFFIC Southeast Asia-Indochina returned in October 2003 to work full-time as a government officer after a period of more than two years with TRAFFIC, on secondment from the Wildlife Protection Office. Through his work with TRAFFIC on building a framework for CITES implementation in Cambodia, Phalla's expertise in the workings of the Convention has grown, to the extent that he has been appointed as assistant to the Chairman of Cambodia's CITES Management Authority.

Please note a small change to the address of TRAFFIC International following its move to new premises in January 2003 (see back page).

TRAFFIC's new international headquarters in Cambridge, UK. S. BROAD/TRAFFIC

traffic websites

http://www.traffic.org
http://www.trafficj.org
http://www.deol.ru/nature/protect
http://www.wow.org.tw
http://www.trafficindo.org

This issue of the *TRAFFIC Bulletin* is available on http://www.traffic.org

CITES NEWS

Libya, Syria, Albania and Lesotho Join CITES

The Socialist People's Libyan Arab Jamahiriya, the Syrian Arab Republic, and Albania have acceded to CITES, effective, respectively, on 28 April, 29 July and 25 September 2003. Lesotho, the only remaining State that had signed the Convention but had not ratified, deposited its instrument of ratification on 1 October. This will enter into force on 30 December 2003 and brings to 164 the total number of Parties to CITES.

CITES Listing for Sea Cucumber

The Government of Ecuador has requested the CITES Secretariat to include in Appendix III *Isostichopus fuscus* (=*Stichopus fuscus*) of the family *Stichopodidae*. The listing will take effect on 16 October 2003.

Queen Conch Import Ban Urged

On 29 September 2003, the Dominican Republic and Honduras, range States of the marine gastropod Queen Conch *Strombus gigas* (CITES Appendix II), agreed to suspend the issuance of export permits for all specimens of this species. This decision is in response to recommendations by the CITES Animals Committee at its 19th meeting in August 2003, which urged restrictions on international trade in populations of this species that have been identified in the recent Review of Significant Trade as being of "urgent concern". The two countries have committed to implement specific short-term actions recommended by the Animals Committee. In support of these efforts by the Dominican Republic and Honduras, the Secretariat has urged all Parties not to authorize any imports of specimens of Queen Conch from these countries until further notice. Further, the CITES Standing Committee recommends that all Parties suspend Queen Conch imports from Haiti, also a range State of Queen Conch whose populations are of "urgent concern". Haiti has not yet shown the same commitment to implementing the same recommended short-term actions within the agreed time-frame.

In light of these recommendations, the USA, the world's biggest market for Queen Conch, has announced that it will prohibit the importation of Queen Conch meat, shell and products from the Dominican Republic, Honduras and Haiti. It will continue to import specimens from other countries where legal trade is allowed.

CITES Secretariat: http://www.cites.org;
CITES Notifications to the Parties No. 2003/053, 15 August 2003, No. 057, 29 September 2003;
http://news.fws.gov.newsreleases;
www.traffic.org/news/dom_honduras

The Site for Responsible EU Wildlife Traders

With a population of over 350 million people and a great variety of cultures, the European Union is one of the largest and most diverse wildlife markets in the world. In addition to the hundreds of thousands of plants and live animals that are imported by EU Member States each year (a total of approximately 225 000 live reptiles and 280 000 live parrots in 1999 alone), large trade volumes occur each year between countries within the Union.

Such trade is subject to an increasing number of regulations - from those applying to animal health and welfare, to the conservation of species in the wild. In this context the European Commission contracted TRAFFIC Europe to prepare and administer a website that will improve traders' awareness and understanding of their legal obligations and provide assistance in finding materials that outline provisions concerning wildlife trade controls in a user-friendly way. The website *www.eu-wildlifetrade.org* was launched in June 2003.

All EU Member States are party to CITES which, since 1984, is implemented in the EU through Council Regulation (EEC) 3626/82. Regulation (EC) 338/97 on the *Protection of Species of Wild Fauna and Flora by Regulating Trade Therein* was adopted by the Council on 9 December 1996 and applicable as of 1 June 1997, together with Commission Regulation (EC) No 939/97 which was amended by Commission Regulation (EC) 1808/2001, adopted in September 2001. The latter contains detailed implementation provisions, particularly on the use of permits and certificates, and the labelling of specimens. The text of the Convention, together with all currently applicable Resolutions and Decisions of the Conference of the Parties on the interpretation and implementation of its provisions, is fully implemented through these two Regulations.

To achieve effective implementation of the EU wildlife trade regulations, it is important that consumers - and in particular those in the commercial sector - are aware of existing legal provisions set out in Annexes A, B, C and D of Regulation (EC) 338/97 and that they understand the requirements to comply with these provisions. Access to information is vital in order to ensure that the target audience effectively applies the provisions of wildlife trade regulations and, ultimately, engages in reaching their legal and conservation objectives. The latter can be achieved mainly by increasing stakeholders' understanding of the regulatory measures related to their commercial activity, as well as awareness of the role they play in the wildlife trade forum and of the possible long-term benefits to be obtained in improving monitoring and control of these markets.

According to a recent TRAFFIC Europe survey, traders in several EU Member States experience problems in obtaining clear and updated information. This leads, for example, to scenarios where shipments are seized because traders had not been aware that importation of the species involved was temporarily suspended under EU law. In addition, traders and travellers often have difficulties in understanding the various EU, national and CITES legal requirements.

continued on page 114

wildlife enforcement

NEW INTELLIGENCE UNIT IN THE USA

The US Fish and Wildlife Service Office of Law Enforcement, which is responsible for enforcing CITES and national laws that protect wildlife in the USA, is improving its intelligence gathering and analysis capabilities. Service Law Enforcement has created and staffed an Intelligence Unit within its Branch of Special Operations - a group that previously focused primarily on conducting long-term covert investigations of wildlife trafficking.

"Our experience in trying to penetrate wildlife crime networks spotlighted the need for better intelligence" said Special Agent in Charge Sal Amato, who oversees the Branch's investigative activities as well as its new intelligence unit. "Timely, relevant information can make a difference in how well we respond to the increasing sophistication and organization of wildlife crime."

The Intelligence Unit, which was originally staffed by a single analyst, now consists of four full-time specialists dedicated exclusively to intelligence work. "We've put together a team that offers in-depth understanding of wildlife trade enforcement and US CITES implementation as well as knowledge of wildlife markets, global trade routes, and international smuggling and money laundering techniques", Amato said.

The unit will focus on collecting and analysing intelligence on all aspects of wildlife trafficking to support Service investigations, import/export inspection operations, and smuggling interdiction efforts. The group will also co-ordinate intelligence-sharing with other law enforcement agencies and maintain liaison with US and international conservation groups, including the TRAFFIC network.

"Communication and co-operation across borders will be essential to our ability to obtain intelligence and use that information effectively to combat wildlife crime", Amato said. Service analysts have already established contacts with wildlife enforcement or intelligence units in the UK, Canada, India, Australia, and New Zealand, and hope to expand and work closely with this network.

Sal Amato can be contacted at the US Fish and Wildlife Service, Office of Law Enforcement, Branch of Special Operations,
4401 N. Fairfax Drive, MS-LE-3000, Arlington, Virginia 22203, USA.
Tel: 1 703 358 2191; Fax: 1 703 358 2268;
E-mail: Sal_Amato@fws.gov.

US Fish and Wildlife Service, Office of Law Enforcement

Harvesting caviar from live sturgeon

A NEW INITIATIVE TO PROMOTE the harvest of caviar without killing sturgeons could bring some hope of alleviating pressure on sturgeon populations in the Caspian Sea.

A leading importer in the caviar industry, Marky's Caviar, International Food Emporium (Optimus, Inc.), reports that it has reached agreement with Raskat, a Russian caviar producer, to purchase beluga, osietra and sevruga caviar produced without killing adult female sturgeons.

The agreement of 4 March 2003 aims to ensure that 100% of caviar from Beluga *Huso huso* purchased by Marky's will be produced this year without killing the fish; 90% of osietra caviar (from Russian Sturgeon *Acipenser gueldenstaedtii*) and sevruga caviar (from Stellate Sturgeon *Acipenser stellatus*) is planned to be harvested in this manner in 2004 and 2005, respectively. After surgical removal of the fish roe from the female sturgeon, the fish will be stitched up, tagged, and returned to the sea; post-surgical adaptation and migration patterns will then be studied. The agreement also aims to ensure that there is a compensatory release of sturgeon fry into the Caspian Sea in order to replenish sturgeon stocks.

Previous research known to TRAFFIC into the recovery of sturgeon fertility after caviar extraction proved unsuccessful because of the apparent slow regrowth of the female ovary. Nevertheless, initiatives of this kind between commercial partners provide a good opportunity for further scientific research to be conducted into sturgeon biology.

In addition Marky's Caviar states that it will require DNA batch tests for each species of sturgeon from which caviar is derived, which will be verified by the CITES Scientific Authority of the Russian Federation. This DNA analysis of the roe of beluga, osietra and sevruga caviar enables the company to ensure the origin and quality of its product to customers. The agreement also obliges Raskat to provide specific documentation tracing the entire caviar production process.

Marky's Caviar has stated that it will insist on all future agreements with caviar and live fish suppliers on compliance with these requirements. Together with partner company Sturgeon AquaFarms, LLC, it is also starting an aquaculture operation in Florida, USA, that will farm various sturgeon species for commercial production of sturgeon meat and caviar for domestic consumption.

Marky's Caviar will also need to adhere to the CITES universal labelling system for the trade in and identification of caviar that will enter into effect in January 2004 (see page 127). It is hoped that the company will assist its caviar trading partners to implement such a system.

Press release, Optimus Inc., 4 March 2003; www.markys.com; www.gourmetnews.com; WWF-US; The Miami Herald (USA), 12 March 2003; TRAFFIC Europe

STURGEON AN

Catch and export quotas for 2003 for specimens of Acipenseriformes species from the Caspian Sea have been approved by the CITES Secretariat. The export quotas for caviar total 146 210 kg, compared with 140 237 kg in 2002 and 153 620 kg in 2001. The approved quotas for sturgeon catch and caviar exports are based on information submitted by governments of the Caspian littoral States and on the Secretariat's missions to the region to verify survey results.

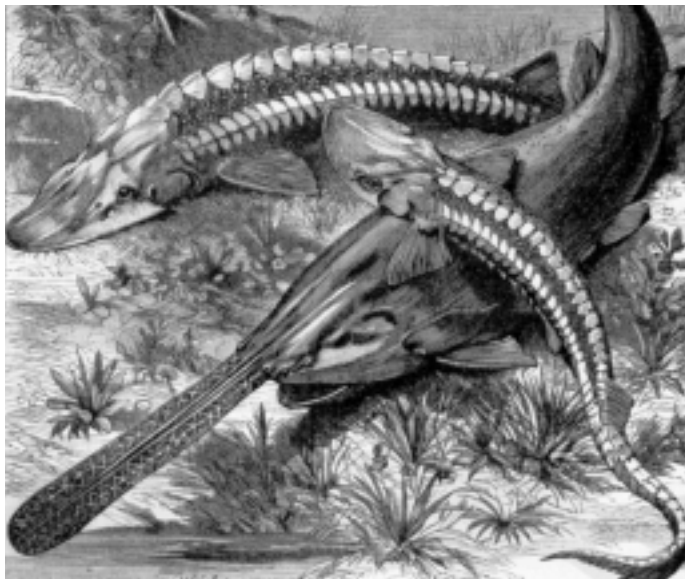
The majority of the world's caviar comes from four species of sturgeon: the Beluga *Huso huso*, Russian Sturgeon *Acipenser gueldenstaedtii*, Stellate Sturgeon *Acipenser stellatus* and Persian Sturgeon *Acipenser persicus*, all of which inhabit the Caspian Sea Basin.

Caviar is the unfertilized eggs, or roe, of the female sturgeon, which can produce up to 15% of its body weight in eggs. The fish is killed and the ovaries removed; the roe is mixed with salt and canned for export, or sold locally.

The key caviar-producing countries are Russia, Kazakhstan, Azerbaijan and Iran. Once carefully regulated, the industry suffered from overfishing following the collapse of the Soviet Union. Sturgeon stocks were reduced - in the case of the Beluga *Huso huso* by as much as 90% - and international trade restrictions were imposed. The supervision by CITES of Caspian sturgeon trade is carried out under the mandate of the Review of Significant Trade (see *TRAFFIC Bulletin* 19(2):66).

North American sturgeons and paddlefish constitute the largest alternative fisheries to the Caspian Sea for caviar production. However the harvest of sturgeon and paddlefish eggs for caviar could have a significant impact on several North American species including those already considered endangered or threatened (see overleaf).

CITES Secretariat press release, 5 September 2003; TRAFFIC Bulletin *19(1):35. TRAFFIC press release, 22 May 2003*



North American caviar-bearing fish at risk

Populations of **paddlefish and sturgeon** (Acipenseriformes) make up the largest alternative fishery to the Caspian Sea for caviar production.

Nine sturgeon species (including one subspecies) and one of the world's two species of paddlefish are distributed in North America, primarily the USA. Unsustainable fishing in the past has contributed significantly to the decline and in some cases near-extinction of some species and several have not recovered to a point where they can withstand commercial, or even recreational fishing pressure. However, an increase in the legal and illegal exploitation of several acipenseriform species coincided with a dramatic decline of sturgeons in the Caspian Sea, and could have a significant impact on several North American species. As of 1998, trade in all of the world's paddlefish and sturgeon species was regulated by CITES.

A report recently published by TRAFFIC North America ***Caviar and Conservation: Status, Management and Trade of North American Sturgeon and Paddlefish*** examines the current status of North American paddlefish and sturgeon species, the historic, current (and illegal) catch levels and trade and the challenges and/or threats to their conservation. It investigates the developments in private commercial aquaculture and other captive propagation programmes and how such ventures might provide a conservation benefit to wild populations or, conversely, present new problems or challenges to fisheries and trade management authorities.

Copies of the report, by Douglas F. Williamson, can be obtained from TRAFFIC North America (address back page) or accessed online at www.traffic.org.

AMERICAN CAVIAR

Wildlife agents in the USA have penetrated sturgeon poaching operations nationwide and made the following seizures and prosecutions:

• On **22 May 2003**, 12 people were arrested for their alleged involvement in a West Coast poaching ring. All were accused of catching, selling or possessing White Sturgeon *Acipenser transmontanus* - the largest freshwater fish in North America, which is protected. The fish had been taken from the Sacramento-San Joaquin River and the roe sold as caviar.

• On **9 May 2003**, eight people were arrested as part of a crackdown in California, Oregon and Washington on the illegal fishing of sturgeon from the Sacramento River. The ringleaders are alleged to have recruited as many as 20 fishermen to catch White Sturgeon *A. transmontanus*, the caviar of which was marketed primarily to members of the Russian-American community in these States.

• On **2 May 2003**, Arkady Panchernikov, a Russian immigrant described as the biggest caviar dealer in the USA, received a federal gaol sentence in New York of 21 months and was fined USD400 000. He pleaded guilty to illegally trafficking in American and Russian caviar, mislabelling American caviar as the more expensive Russian roe, and other violations.

• In **April 2003**, five Eastern Europeans were arrested in New York and Los Angeles on charges of illegally trading in caviar allegedly derived from North American paddlefish and sturgeon unlawfully taken from lakes and rivers in Tennessee and Kentucky. Much of the caviar was fraudulently sold as Russian product.

• In **2002**, the operators of Royaloff Caviar in Tennessee were convicted of illegally catching and selling some 4000 kg of paddlefish caviar. There were similar convictions in New York, Oklahoma and Maryland in **2001** and **2000**, including one that incurred a record USD10.4 million fine for Maryland-based US Caviar & Caviar Ltd for misdemeanours which included the mislabelling of North American roe as Russian caviar.

Source: TRAFFIC

GREEN CUSTOMS INITIATIVE

S. PENDRY/TRAFFIC

a co-ordinated international response

An initiative led by the United Nations Environment Programme (UNEP) has been launched to help tackle the growth of environmental crime. The project aims to co-ordinate and harmonize collaboration around the world on training and information exchange relating to illegal trade in toxic chemicals, hazardous waste and threatened wildlife. The illegal trade in wildlife has become one of the most profitable and fastest growing areas of international crime and a principal focus of the project will be to train border guards to identify and detain people illegally trafficking in such commodities. A website (http://www.unepie.org/pzonaction/customs) where interested organizations and Customs officers themselves can get information, is a key feature of the project. Klaus Töpfer, Executive Director of UNEP, said

to wildlife trade enforcement

of the initiative, "The smuggling of ivory, tiger bones and rare orchids is a direct threat to species' survival. The illegal traffic of toxic waste negatively impacts on the environment and health of thousands in the developing world. At the same time criminal groups smuggle environmentally harmful products like ozone-depleting chlorofluorocarbons (CFCs) whose legal trade is subject to stringent international restrictions. Building the capacity of Customs officials, who are on the front line of every country's efforts to combat this illegal trade, is vital".

UNEP press release, 2 June 2003

continued from page 111

The information available on the website is divided into sections, amongst which are:

• a guide to international legislation relating to wildlife trade and the keeping of live specimens, as well as to national laws adopted by the 15 EU Member States to implement and enforce CITES and other wildlife trade regulations. It also covers legislation governing related issues such as species conservation, the protection and welfare of animals and plants, the hunting of birds, controls for zoos and botanical gardens, and Customs rules.

• an overview of the documents or permits required to trade legally in specimens of species that are listed in the four annexes of the Regulations; an explanation is given of the procedures that must be followed and conditions to be met before the relevant documents will be issued. External and internal EU trade as well as specific provisions for trade in captive born and bred animals and artificially propagated plants are covered.

• a section devoted to addressing traders' obligations with regard to animal and plant welfare and their responsibility in educating buyers of exotic species. Also highlighted are the risks involved in trading in wildlife, from the escape of exotic species, possible invasion of natural habitats and competition with native species in importing countries, to the threats posed to human health and safety caused by transmissible diseases.

• an explanation of the marking requirements for certain live animals and parts/products of wildlife covering commonly used techniques, such as the tagging of crocodile skins, labelling and container requirements for caviar, and markings for tortoises.

• additional documents which explain legal obligations that apply to personal and non-commercial use of wildlife when travelling, e.g. hunting trophies. The website also contains a guide that provides information on the type of souvenir that requires a permit and the items that are banned from trade.

Links are given to over 600 addresses offering information on, for example, international agreements, CITES checklists, identification guides, conservation organizations, hobbyist associations and commercial federations involved in the exotic pet trade, as well as zoological and botanical gardens, and those relating to ornamental and medicinal plants. Advice on the keeping of commonly kept species and the requirements applying to the transport and exhibition of live animals and plants can also be sought and visitors given the opportunity to interact with website administrators by making suggestions or specific queries.

The site will undoubtedly improve understanding of regulations and help to ensure that wildlife trade involving the EU is in accordance with international law and not a threat to the long-term survival of species in the wild.

Laurie Kint, Communication & Administration Officer
TRAFFIC Europe

ALERCE ALERT

A loophole in legislation protecting one of the world's oldest and rarest trees is being exploited, resulting in extensive devastation to the species' population in Chile. The felling of Alerce *Fitzroya cupressoides*, a slow-growing and endangered conifer species, has been prohibited in Chile since 1976; the ban does not, however, cover the collection of and trade in the dead wood. The consequence of this has been the loss of thousands of hectares of Alerce to fires deliberately set to give loggers easier access to the trees; another technique used to kill Alerce is the removal of the sapwood which causes specimens to die within a few years.

Endemic to wet temperate forests of Chile and Argentina, only 263 000 hectares of Alerce remain in Chile. Hundreds of people are alleged to have settled illegally in the Sarao mountain range, Los Lagos, over the past 20 years in order to exploit Alerce populations in the area, although many claim that they acquired their land legally. Large networks of paths, camps and heavy machinery visible from the air show the progress that has been made over the years in felling the few remaining Alerce trees. Clandestine logging companies operating along the coastal range are reported to have cut more than 2500 Alerce so far this year (WWF, 2003).

During 1998-2000, 17 infractions of Chile's legislation which related to the illegal cutting and transport of Alerce were recorded by the government agency CONAF (National Forestry Corporation) (Oldfield, 2003) and 30 complaints of illegal felling and trade by alleged illegal occupants were brought to court in 2002 alone.

A lawsuit has now been filed against the director of CONAF for failing to comply sufficiently with its regulatory role. The owner of 49 000 hectares of wild forest in the Sarao mountain range claims that Alerce is being harvested by well-organized illegal associations. He accuses CONAF of denying him access to public information on inspections that CONAF should have performed on his property, and suspects irregularities. Meanwhile, an investigation by the president of the Chamber of Natural Resources Commission, congressman Fidel Espinoza, has reportedly confirmed suspicions that extraction permits issued by CONAF have been used as a front to extract Alerce that is still living. CONAF has responded by saying that these allegations will need to be technically verified.

According to the findings of the Chilean non-governmental organization Defenders of the Chilean Forest (Defensores del Bosque Chileno), indiscriminate logging of Alerce is being carried out in eight areas in Los Lagos. In the light of their observations, and the fact that Alerce is available to buyers over the internet, the NGO has launched a campaign "Save Alerce" which calls for a complete ban on all commercial trade in the species until current legislation is tightened.

www.diario.el Mercurio (Chile), 9/13/18 June 2003; El Lanquihue: www.ellanquihue.cl, 26/29 January 2003; The Trade in Wildlife: Regulation for Conservation. S. Oldfield (ed.) (2003). Fauna & Flora International, Resource Africa and TRAFFIC International. WWF (2003). Stop Massive Logging of Old Growth Forest in Chile: http://takeaction.worldwildlife.org. Anon. (1983). Proposal to transfer the Chilean coastal population of Fitzroya cupressoides *from Appendix I to Appendix II submitted by the Government of Chile.*

K. LOCHEN/TRAFFIC

Alerce *Fitzroya cupressoides*, Chile.

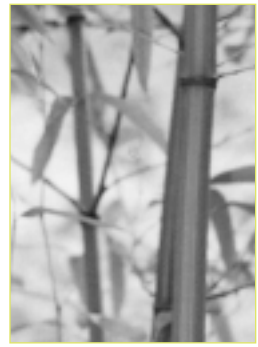
ALERCE was declared a Natural Monument in Chile in 1976 receiving protection under *Decree No. 490* that banned the harvesting of living trees; exploitation of wood that had been dead prior to 1976 was subject to a management plan established under CONAF. The species has been included in CITES Appendix I since the Convention came into force in 1975, thereby placing a ban on all commercial international trade. In 1983, the coastal population was transferred to Appendix II to allow for the exportation of wood from trees that had been killed by fire in the coastal zone some 30 years earlier (prior to the date the listing came into force) and a national ban on the felling of live specimens was decreed (Anon., 1983). The Parties decided to return the population to Appendix I in 1987 in order to facilitate enforcement of trade controls. Chile entered a reservation against this listing, however, and continued to trade internationally in pre-Convention stocks. According to a TRAFFIC analysis of CITES timber trade from 1992 to 2001, the USA is one of the main importing countries (TRAFFIC Europe *in litt.* to TRAFFIC South America, 6 August 2003; Centro Austral de Derecho Ambiental (CEADA) *in litt.* to X. Buitrón, April 2003). The main importing countries in 2000 were Taiwan and Tahiti which are not party to CITES (Oldfield, 2003).

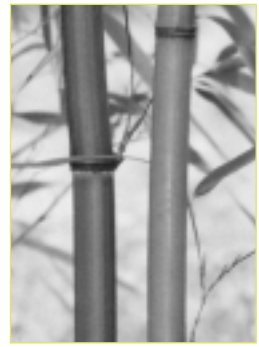
BAMBOO AND RATTAN

BAMBOO is a multi-purpose product with uses ranging from building materials, pulp, cloth, charcoal, oil and gas to medicine, perfume and beer. The stems of RATTAN are nearly as versatile, and are particularly popular in the manufacture of high-value furniture. Both bamboo and rattan are estimated to contribute between USD5-7 billion to world trade, similar in value to the banana trade at USD5 billion and cotton at USD6 billion.

There are about 600 rattan species grouped under 13 genera, most of them indigenous to South-east Asia. Only about 20 species are used for commercial purposes, with the remainder used by local people for their own use. The status of rattan in most tropical countries is little known, although some species are considered to be endangered and rare (Sunderland and Dransfield, 2002). Many species in India are severely threatened by habitat destruction, overexploitation and illegal cutting owing to increased demand, and yet rattan is one of the least protected groups of plants in that country. In Indonesia, almost 90% of the supply comes from natural forest and the remainder from plantations. Out of a total of 20 species in Africa, two are classified as endangered and three are vulnerable, while the remaining species are not threatened (Sunderland, 2002).

Bamboo ranges from temperate to sub-tropical to tropical zones although the majority occurs in the tropics. There are an estimated 1250 species in 75 genera; many are used commercially. Some bamboos are becoming threatened owing to rapid deforestation (Banik, 1995).





PHYLLOSTACHYS BAMBUSOIDES K. LOCHEN/TRAFFIC

Over 98% of world trade is recorded under an official system of codes known as the Harmonized Commodity Description and Coding System (HS), which forms the basis for Customs tariffs and trade statistics in 186 countries and economies. This system is thought to offer the most comprehensive international tool for collecting statistics, allowing for the application of, for example, information on the origin of the goods, type of product, Customs and freight tariffs, trade policy regulations and internal taxes. All these categories are set out as codes which adhere to well-defined rules of classification that are universally applied. The system is also used for the monitoring of dangerous goods and application of agreements such as the World Trade Organization (WTO), tariff concessions, United Nations Commodity Classification System and trade policy regulations.

A meeting of the Food and Agriculture Organization of the United Nations (FAO) and the International Network for Bamboo and Rattan (INBAR), held in Rome in December 2002, recognized an urgent need to introduce more codes in the HS for bamboo and rattan commodities. The *Expert Consultation on Developing an Action Programme Towards Improving Bamboo and Rattan Trade Statistics*, attended by 15 participants representing various countries and organizations, including TRAFFIC, was designed to present the intricacies of international trade in bamboo and rattan and the shortcomings of HS records. Improving statistics will help deter illegal logging and deforestation, but also attract investments and business, inform forest policies, monitor and manage market prices, tax and Custom duties. Such improvements will also raise awareness amongst the public about the need for better management of bamboo and rattan resources and provide more effective conservation measures for those species that are threatened.

The meeting addressed some relevant issues for consideration before recommending a change to the HS code, the most important being the lengthy time frame of between five and seven years before such changes can be adopted by countries. Although a country can unilaterally refine their national code, this does not allow for a comparative analysis of statistics between countries. Moreover, the system cannot track the movement of products being re-exported if a re-classification has occurred. The HS code is also generally limited to commodity trade valued above USD50 million per year, except for those species for which trade is prohibited or restricted.

To gain a better understanding of this resource base, information provided by surveys, assessment and conservation of the species is essential so that these commodities continue to contribute towards the needs and development of human welfare, livelihoods and the economy. The meeting concluded with a set of proposals to the World Customs Organization (WCO) - the body responsible for developing the HS codes - to introduce more codes for bamboo and rattan in the HS as well as a plan of action for their implementation. Improved statistics of the international trade will provide useful data that can guide the development and conservation of these resources.

Chen Hin Keong, Senior Forest Trade Advisor, TRAFFIC International

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Trade in Live Dolphins from the Solomon Islands to Mexico

On 22 July 2003, Mexico received a shipment of 28 live wild Bottlenose Dolphins *Tursiops truncatus* from the Solomon Islands. The animals were destined for a recreational aquatic park in Cancun.

Events surrounding this transaction highlight some important issues regarding CITES control of trade in live cetaceans and the Convention's application for trade from non-Party States. According to a statement by the CITES Secretariat, the CITES Management Authority of Mexico contacted the Secretariat on 15 May requesting their advice in relation to two export permits that had been issued by the Ministry of Forests, Environment and Conservation in the Solomon Islands. These authorized the export of 120 Bottlenose Dolphins. The species is listed in Appendix II of the Convention, which means that it can be traded internationally if the provisions of Article IV of CITES are complied with, notably if the export is found to be non-detrimental to the survival of the species by a designated scientific authority.

The Solomon Islands is not a Party to the Convention. However, its government has previously advised the CITES Secretariat that its Ministry of Forests, Environment and Conservation is competent to issue documents comparable to those required by CITES. It has also designated a scientific institution capable of advising that an export is not detrimental to the survival of the species.

The Secretariat reported that its reply to the CITES Management Authority of Mexico noted that it had no information regarding the harvesting of dolphins in the Solomon Islands or how its government managed trade in the species. It also pointed out that there have been several cases of mortality in the shipment of dolphins in recent years and that trade in the species has attracted considerable criticism from international conservation and animal welfare organizations. The Secretariat noted that a considerable number of specimens were intended for trade and wished to be informed about the purpose of the trade.

The Secretariat, in view of the above, had recommended that Mexico:

1. seek confirmation from the Solomon Islands that the documents were authentic and valid;
2. seek information regarding the non-detriment finding made by the authorities in the Solomon Islands and a finding that the animals would be legally obtained;
3. seek confirmation that the transport would be conducted in a manner that would comply with either the IATA Regulations or the CITES guidelines on transport of live specimens; and
4. because of the history of high mortality, confirm that the intended recipient(s) was (were) suitably equipped to house and care for such a large number of specimens (even though this would not normally be required for an Appendix-II species).

The Secretariat was of the opinion that until Mexico received further information from the Solomon Islands addressing the points raised by the Secretariat, the imports should not be allowed.

On 21 August, at the 19th meeting of the CITES Animals Committee, Mexico confirmed that it had received a shipment of Bottlenose Dolphins from the Solomon Islands which it stated was accompanied by valid export permits. It requested greater clarity on trade with non-Party States and suggested that regional co-operation might be an alternative for providing assistance to non-Party States. The Secretariat stated that sufficient information on the issue of non-Parties and non-detriment findings is already provided in Resolution 9.5, while the regional representative for Oceania stressed the need to deal with countries that did not have the financial resources to undertake non-detriment findings. The Chair suggested that Mexico table the issue at the 20th meeting of the CITES Animals Committee.

The Secretariat has encouraged the Solomon Islands on several occasions to accede to the Convention, which would facilitate more effective regulation of trade in wildlife from the country.

Extracts from CITES Secretariat Statement: www.cites.org, 30 July 2003; TRAFFIC International

Abalone Fishing Ban in South Africa

The Government of South Africa has developed a draft policy which would see a moratorium placed on the recreational fishing of abalone, or perlemoen *Haliotis midae*, along the Western Cape coast. The draft policy, published on 18 August 2003, is aimed at preventing the collapse of abalone stocks which have plummeted as a result of overharvesting. It will be managed by various groups in seven zones along the coastline and lays down strict conditions, including a restriction on the number of days when abalone can be harvested; applicants will have to show that they have a history of diving legally for abalone and depend on abalone for at least 75% of their annual income. Each abalone diver will be allocated 10-year fishing rights. Commercial companies will have to secure their supply from divers.

No date has yet been given regarding commencement of implementation of the policy.

Haliotis midae is found in the shallow coastal waters of South Africa. Over 95% of specimens harvested are destined for international markets, in particular China, where it is prized by gourmets. In a recent media release, TRAFFIC recognized the importance of this resource to the coastal communities and expressed concerns that even if the legal fishery were to be closed completely, it would not prevent illegal harvesting for foreign markets from taking place. While TRAFFIC supports all attempts to address illegal abalone harvesting, it believes that regulation of this mollusc species under CITES Appendix III, which would enlist the assistance of consumer states in monitoring and regulating the trade, would help both to stem the lucrative illegal trade and ensure sustainability of the resource. A recent statement by the government reported in the South African press indicates that the government is taking steps to list *Haliotis midae* in Appendix III (Anon., 2003).

Cape Times, 19 August 2003; www.capetimes.co.za/index.php ?fSectionId=269&fArticleId=210227; SABC News, August 18, 2003; www.sabcnews.com/south_africa/general/0,2172,64 170,00.html; www.traffic.org; Anon. (2003). Weekend Argus (South Africa), 19 September 2003

S. BROAD/TRAFFIC

THE TRADE IN EXOTIC PETS continues to grow. The European Union, after the USA, is one of the largest markets for this trade, especially in live reptiles. A study by TRAFFIC Europe of the trade in live reptiles into and within the EU between 1990 and 1999 has established that many of these animals are taken from the wild: for example, about 135 000 live CITES-listed reptiles were legally imported into the EU every year during this period, 40% of which were sourced from the wild. During the last decade, EU imports in live reptiles increased by over 300% - from 60 000 in 1990 to 225 000 in 1999. South America and Africa were the main suppliers, and Spain and Germany the major EU importing countries, accounting for a total of about 290 000 and 280 000 live specimens, respectively, representing 20% of the sum of imports of live CITES-listed reptiles over 10 years. Netherlands, France, UK and Belgium each accounted for between 10% and 12% of imports. However, the EU study suggests that, taking into account non-CITES reptile species, the total of 1 339 000 live reptiles recorded in CITES trade data as EU imports from 1990 to 1999 represented only 30% of all live reptile trade to the EU. This study, which will be published later this year, also analyses hobbyists' growing interest in captive-breeding and ranching, as well as challenges faced by trading nations in preventing global demand for exotic live reptiles from becoming a threat to the survival in the wild of lizards, tortoises and other reptiles.

Two EU countries have been the subject of recent separate studies into the trade in live reptiles, the results of both of which are outlined below. The first forms part of a wider study by TRAFFIC Europe-France of French imports and re-exports of live fauna. The second outlines the results of an investigation carried out by the Belgian Federal Police into Belgium's market for live reptiles. In common with other countries in the EU, the importation of live reptiles has increased significantly in both countries, with lizards the most frequently imported group.

Photograph: Flat-casqued Chameleon Calumma globifer, *Madagascar*

TRADE STUDIES IN LIVE REPTILES

FRANCE CASE STUDY: In recognition of the growing popularity of 'fashionable' pets in France, TRAFFIC Europe-France carried out a study of the country's trade in live fauna between 1990 and 1999 in order to identify the trade trends, taxa involved, countries of origin and sources (e.g. wild or bred in captivity). To illustrate the findings of the study, an overview of France's trade in live lizards is presented below.

Main lizard species imported and their countries of origin

The importation of live reptiles into France in the early 1990s was found to be fairly steady but increased by more than 250% from 1994 to 1999. Lizards, mostly iguanas - in particular Common Iguanas *Iguana iguana* (CITES Appendix II) - accounted for more than half the imports. These mainly originated from Colombia and El Salvador, although 80% had been re-exported by the USA. Snakes constituted 27% of the trade, followed by turtles and tortoises (20%) and crocodilians (1%). While the majority of Common Iguanas were declared as captive-bred, most chameleons *Chamaeleo* spp. (CITES Appendix II) and geckos (CITES Appendix II) were reported to be wild-caught. All imports of geckos (mostly Madagascar Day Gecko *Phelsuma madagascariensis*), came from Madagascar, as did 37% of chameleons, with the remainder from Togo (20%), Burundi (14%) and Tanzania (8%). Other rare taxa were exported by African range States, such as lizards of the agamid family (from Mali) that involved two species taken from the wild - Bell's Dabb Lizard *Uromastyx acanthinura* and *U. maliensis* (both CITES Appendix II). Although 14 range States supplied France with live varanids over the period studied, almost half came from Togo, followed by Ghana and Benin. These three countries exported two species exclusively: African Savanna Monitor *Varanus exanthematicus* and Nile Monitor *V. niloticus* (both CITES Appendix II).

Captive-bred and ranched animals

The study found that, between 1995 and 1999, fewer than half of French imports of lizards concerned wild-caught specimens. The main reason is that most of the Common Iguanas (which accounted for 47% of lizard imports during the period) were captive-bred, but also because French imports from ranching operations started to appear in 1995. For example, almost half of the varanids from Togo and 88% of those from Benin were declared as ranched specimens, where previously they were reported to be taken from the wild.

Wild supply

A large number of lizards, however, continue to be taken from the wild to supply the pet trade in France - 91% of all geckos, 77% of all chameleons and 64% of all varanids imported between 1990 and 1999, for example. With the growing demand for reptiles as pets, a significant proportion of these of wild-caught specimens, and with seizures of reptiles frequently being reported, it is important that these markets are closely controlled.

TRAFFIC Europe-France's report, which also looks at France's imports and re-exports of live CITES-listed mammals, birds, amphibians, fish and invertebrates (1990-1999), will be published later this year. Copies will be available from TRAFFIC Europe-France.

Alexandre Affre, Research Officer, TRAFFIC Europe

IN THE EU: FRANCE AND BELGIUM

BELGIUM CASE STUDY: In Belgium, both the legal and illegal trade in live CITES reptiles have increased in recent years. To understand the drive behind this rise, the Belgian Federal Police Environment Service has carried out an analysis of the live reptile trade in the country, the first time such a study has been undertaken.

General characteristics of CITES in relation to Belgium

A range of areas relating to wildlife trade involving CITES specimens was investigated, including the production, circulation, possession and laundering of wildlife. The trade is carried out at a number of different levels. It can be organized, with structures in place to ensure maximum profit from minimal cost; it can be semi-organized, i.e. sporadic activity for the purpose of making occasional profits; or, non-organized, i.e. conducted by people or groups who will commit an offence without recognizing it or assessing the risks.

Trade routes can also vary. It is often the case that businesses deal in stock that has been both legally and illegally acquired. Individual collectors or enthusiasts who do not consider themselves traders also sell specimens and often gain significant financial reward for doing so.

The legal market in Belgium

Between 1989 and 2000 there were 168 222 CITES transactions involving live reptiles, and imports accounted for over 99% of these. In the past five years, there has been a significant increase in the number of imports recorded. In 1996, Belgium reported 81% more transactions than in 1995.

Over 79% of all import transactions were lizards, which have become the most frequently imported live reptile in recent years. Between 1989 and 2000 over 63 000 import transactions involving the Common Iguana were recorded, compared to 6361 transactions for all tortoise species, for example.

The geographical source of these imports is wide-ranging: between 1989 and 2000, reptiles were being supplied by some 47 countries. However, 67% came from three countries: El Salvador (22%), Madagascar (19%), and Togo (16%).

The movement of CITES species between EU Member States has not required an intra-Community certificate since 1997. Although CITES trade data suggest that internal EU trade in live reptiles totalled 31 391 specimens from 1989 to 2000, this does not necessarily reflect a true picture of the trade because for the last four years for which trade data are available (i.e. 1997 to 2000), transactions were only recorded for Annex A-listed species, and a very limited proportion of those listed in Annex B.

In addition, under Belgian legislation, the penalties imposed for wildlife offences - currently the least punitive in the EU - do not reflect the seriousness of the crime that is being committed, even though such an activity meets Interpol's definition of a 'serious crime against the environment'. The maximum gaol sentence for wildlife offences in Belgium is just three months, compared to sentences reaching a number of years in the UK, Germany, and Netherlands, for example. Current legislation also limits judicial authority and scope of action for the police services.

Illegal trade

Between 1984 and 2000, 366 CITES legislation violations involving reptiles were recorded, but of these only 97 involved live reptiles, and the majority of those occurred in the last four years. This number is too low to allow for any definitive conclusions to be drawn, and is likely to represent an incomplete picture of the illegal reptile trade. Offences fall into three categories: illegal imports, illegal trade and illegal possession, and crime is organized at different levels. Illegal trade seems to target turtles in particular, and represents more than 60% of the illegally traded species. Some specimens can fetch high prices, e.g. Madagascar Tortoise *Geochelone yniphora* (CITES Appendix I), at many thousands of Euros each, but it is worth noting that significant financial gains can be made from large volume sales of less valuable tortoises such as the Spur-thighed Tortoise *Testudo graeca* (CITES Appendix II).

Recommendations

The following recommendations are made in the report:

- the need for a multi-disciplinary approach. Collaboration between all the services involved, both at the national and international levels, is essential to combat the illegal trade in wildlife.
- record wildlife trade offences. Offences are currently not recorded, which makes it very difficult to measure the extent of the illegal wildlife trade in Belgium.
- improve CITES enforcement. CITES is not simple to enforce and training is needed to assist the control services in its enforcement; experts to support these services need to be identified. The quality of such control measures is a crucial element.
- target entry points. There are relatively few entry points into Belgium from outside the EU and limited resources should be targeted at those points of entry in order to have the maximum impact in detecting illegal imports of live reptiles.
- combat illegal domestic trade. Since 1984, 60% of wildlife trade offences have been committed within Belgium. The police have a very important role to play in assisting in the control of illegal domestic trade.

Stephanie Pendry, UK Enforcement Support Officer, TRAFFIC International

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Strategic Analysis: Status of the Illegal Trade in Endangered Species of Fauna and Flora (CITES) in Belgium. A Case Study: the Trade in Live Reptiles by Dominique Henneaux, Strategic Analyst, Belgian Federal Police, General Directorate Judicial Police, Environmental Crime Service, 47 rue Fritz Toussaint, 1050 Bruxelles, Belgium.

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SNOW LEOPARD *UNCIA UNCIA*. DAVID LAWSON/WWF UK

SNOW LEOPARD

Traditionally the Snow Leopard has been used for a variety of purposes: the skins are made into clothing items, including traditional religious dresses, as well as decorative wall mountings; the skull is used in ritual ceremonies and certain body parts such as the sexual organs and the meat are valued in shamanism or for medicinal purposes. Snow Leopard bones are prized in traditional Asian medicine for the treatment of a variety of ailments including rheumatism, tendonitis and bone fractures. The scale of the trade in bones is not well documented and understood and it is unclear whether they are a "by-product" of the skin trade or the primary motive driving the poacher.

The SNOW LEOPARD *Uncia uncia* (CITES Appendix I) is one of the rarest of the big cat species. It inhabits the mountains of Central Asia and the Himalayas, with a distribution ranging over 12 countries. The total population has been estimated to be around 4000-6500 animals, however dramatic declines have been reported over the past decade in parts of the species' range.

The direct killing of Snow Leopards is one of the greatest threats to the species. According to a recently published report by TRAFFIC, the reasons and motives for the killings vary from region to region. These include, among others, killing for the purposes of selling the animal or its parts; prevention of livestock losses owing to depredation by Snow Leopards; accidental killing through the use of poisoned bait or non-selective hunting methods targeted at other species; and, incidental killings, including opportunistic hunting.

Even though the primary motive for the killing of the Snow Leopard may not be trade, the animal or its body parts may still end up in trade. While the killing of and trade in Snow Leopards is prohibited by law in almost all range States, enforcement of these laws is insufficient or even non-existent in the majority of these countries and there is clear evidence of illegal trade in Snow Leopards from all range States, with the exception of Bhutan, for which no information is available.

To gain a better understanding of the trade in Snow Leopards, the motivations driving the trade and the possible trade routes and market destinations, TRAFFIC consultants conducted market surveys and research into the trade. These investigations provide new insight into the various motives that lead to the direct killings of and trade in Snow Leopards and should help efforts to address the root causes of these activities. Urgent action is needed to develop effective conservation strategies aimed at securing the long-term survival of the species as well as the livelihoods of the people that share the mountain areas with this magnificent cat.

Fading Footprints: The Killing and Trade of Snow Leopards

Stephanie Theile
72 pp. August 2003

Copies of the report are available from TRAFFIC International or online at www.traffic.org

India Bans Ivory Trade and Confiscates Stocks

On 27 August 2003, the Supreme Court of India upheld a 1991 amendment to India's *Wildlife (Protection) Act 1972 (WPA)* which banned the trade in imported ivory (trade in Asian ivory has been prohibited in India since 1986). The judgement followed an appeal by ivory traders against a ruling on 20 March 1997 by the Delhi High Court upholding the 1991 amendment to the *WPA*. Further, the Court has ordered the Indian Government to repossess ivory held by the traders; it was ruled, however, that traders may pursue their case for a certificate of ownership to allow them to keep legally acquired ivory, or parts thereof, for their bona fide personal use. Idols and images of gods made out of ivory were ordered to be kept in museums to reflect Indian traditions and culture.

An investigation by TRAFFIC in India showed that a domestic trade in ivory has been taking place despite a national ban on the trade in 1991. The study, carried out between July 2000 and April 2001, compiled information collected from some 70 craftsmen, and 152 traders/retailers, as well as tourist guides, elephant keepers and medicine vendors in some 12 locations in the country.

Awareness of the ban was found to be high among all groups interviewed. Despite this, craftsmen revealed an attachment for ivory. Not only had the profitability of the trade brought them financial reward but, in many cases, communities had enjoyed a longstanding and particular association with ivory and skilled ivory craftsmen had enjoyed high social status. On the basis of estimates made by craftsmen interviewed, about 500 of them still worked with ivory in the locations visited. Both foreign and Indian nationals were reported to be purchasing ivory artefacts such as jewellery and name seals, as well as religious carvings of Hindu gods and miniature Mogul paintings on ivory.

Statistical analysis indicates that international, illegal trade in ivory is directly correlated to the presence of large-scale, unregulated domestic ivory markets. The full report **An Assessment of the Domestic Ivory Carving Industry and Trade Controls in India**, published by TRAFFIC in February 2003, is available at *www.traffic.org*.

Supreme Court of India Judgement, New Delhi, 27 August 2003; TRAFFIC International.

• **briefly** The European Commission has put forward proposals for a total ban on the use of drift-nets in the Baltic Sea by 2007 to moderate the accidental killing of cetaceans by fishing vessels. Until that time, it calls for the reduction in the length of such nets in the Baltic Sea to 2.5 km, in line with Community drift-net fisheries. Drift-nets in the Baltic Sea are primarily used to catch salmon and are considered to be a major threat to the conservation of cetacean populations, in particular the critically endangered Harbour Porpoise *Phocoena phocoena* (CITES Appendix II). The proposals shall enter into force on 1 July 2004.

Commission of the European Communities, proposal for a Council Regulation laying down measures concerning incidental catches of cetaceans in fisheries and amending Regulation (EC) No. 88/98. 24 July 2003

• New Zealand's Ministry of Fisheries has announced that it will ban set net fishing from inshore waters in the range of Maui's Dolphin *Cephalorhynchus hectori maui*, the world's smallest and rarest dolphin species, with a population of between 80 and 100. Set nets - a type of nylon gill net, anchored to the sea floor and in which the dolphins become entangled - have led to a severe depletion of this species over the past few decades.

The decision, which follows WWF action to reverse a High Court ruling that overturned a previous ban on commercial set net fishing in the Maui's Dolphin range, has not yet passed into law and is therefore not being implemented.

Wildlife News of the Natural World, WWF Australia. Number 100, Summer 2003; www.wwf.org.nz 10 June 2003; www.bbc.co.uk/nature/wildfacts/factfiles82.shtml

• Sainsbury's, one of Britain's biggest supermarket chains, has announced that it will buy all wild fish from sustainable sources by 2010. Its own label fresh, frozen and canned wild capture fish will be sourced from well-managed fisheries which meet the needs of the FAO Code of Conduct for responsible fisheries. This code is designed to ensure that fish shocks are maintained and restored, whilst assessing the environmental impact that fishing can cause. To realize this commitment, Sainsbury's will be working closely with its suppliers and the Marine Stewardship Council.

J. Sainsbury plc news release, 21 March 2003

• Efforts to manage Peru's forest resources are being undermined by extensive illegal logging of mahogany, the vast majority of which is reportedly exported to the USA. The Peruvian Government and forest concessionaires are trying to set up a forest management system that is legal and sustainable. Recent reforms have demonstrated success in providing more stable local livelihoods, stronger governance and biodiversity conservation in Peru's forest sector, but illegal logging continues. WWF-US will be assisting in promoting responsible forest management and reducing illegal logging in Peru by enlisting the support of key US end-users of mahogany products.

WWF-US

SARS Spurs China to Action . . . But Concerns Remain

This year's outbreak of the SARS (Severe Acute Respiratory Syndrome) virus in Asia has brought the issue of wildlife trade in China to world attention like never before. This was largely due to reports that the Masked Palm Civet *Paguma larvata* was a potential source of the disease, with similar claims being made with regard to racoon dogs, badgers and other wild animals traded in China.

The concerns about the link between wildlife and the SARS virus prompted the authorities in China to launch a nationwide crackdown in April 2003 on illegal wildlife trade. Jointly organized by the State Forestry Administration and the Ministry of Public Security, the operation - called 'Spring Thunder' - involved more that 170 000 forest police who inspected some 70 000 restaurants, hotels, markets, wildlife farms, pet markets and wildlife trading companies across the country. According to the Chinese Government, more than 930 000 animals or animal parts were seized, many of them of protected species, and a large number of illegal traders and operators were prosecuted. Subsequently, similar enforcement measures were carried out in various parts of China, in particular Guangdong Province. In addition, a ban on the consumption of wildlife was introduced in various cities, which was only lifted at the end of July.

In August, a joint team of specialists from the World Health Organization and the United Nations Food and Agriculture Organization visited China. Together with specialists from the Chinese Government, the team investigated the animal reservoir of the SARS coronavirus and issued a series of recommendations and actions necessary not only to identify the disease's animal reservoir, but to contain any future outbreaks. Among the measures recommended by the joint team of specialists was the need to strengthen regulations in the farming, trading and consumption of wildlife.

In early September, a separate study by Guan *et al.* (2003) revealed that, save for an extra 29-nucleotide sequence, a coronavirus identical to the one that causes SARS in humans had been found in civet cats, a raccoon dog and a ferret badger in an animal market in Guangdong, China.

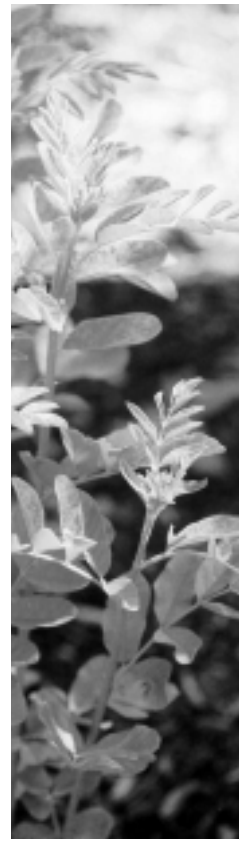
The civet is heavily consumed in the region. A survey by TRAFFIC East Asia in 1996 of the attitudes of Hong Kong Chinese towards wildlife conservation and the use of wildlife as food and medicine revealed that civet is the second-most frequently consumed item of exotic food, consumed by 30% of respondents. Snake was the most popular animal, cited by 51% of respondents, and pangolin was third at 17%. Barking Deer, Wild Pig, turtle and deer were other popular wild animals, along with dog.

TRAFFIC hopes that the strict enforcement action initiated by the Chinese authorities in April will continue even after the SARS outbreak has been controlled. Such efforts also need to be complemented by initiatives to enhance awareness of wildlife protection and conservation in Chinese society so that the concept of a sustainable and regulated trade in wild plants and animals can be accepted and implemented. The sheer scale of items seized as a result of enforcement actions this year would suggest that much of the trade is currently illegal or unsustainable. Greater steps will need to be taken to ensure that the consumption of wild meat is effectively managed and regulated, especially for species where over-harvesting, over-consumption and lack of management may be detrimental to their survival.

While greater attention to SARS has resulted in some positive action by the authorities, the outbreak may have had adverse conservation impacts as well. There was apparently an upsurge in the consumption of medicinal plants and herbs in China and Hong Kong during the outbreak, with recipes and formulas for anti-SARS medicines being developed and prepared from various herbal ingredients.

The genus *Glycyrrhiza* (liquorice) is in great demand for use in traditional medicines. Many species in the genus are cultivated but plants growing in the wild also continue to be exploited to a large extent. In China, for example, where *Glycyrrhiza* species are harvested and consumed, cultivation of liquorice is in its infancy and cannot meet the growing domestic demand which relies for its stocks on wild and/or imported material.

Europe's Medicinal and Aromatic Plants: their use, trade and conservation; TRAFFIC East Asia



LIQUORICE *GLYCYRRHIZA GLABRA* K. LOCHEN/TRAFFIC

The most commonly used herbs were plants that, according to the China pharmacopoeia, are reputed to strengthen the lungs and the immune system. Many of these species are sourced from the wild and are currently not cultivated on a commercial scale. Liquorice *Glycyrrhiza*, which is heavily traded for its antiviral properties, and wild ginseng *Panax*, also believed to have medicinal properties that strengthen the immune system, are among those medicinal plants that are of conservation concern.

According to TRAFFIC representatives in East Asia, the price of some of these ingredients has increased five- to ten-fold during the course of the outbreak. In light of the SARS scare, there may also be an increase in the number of consumers of such traditional medicines. It is still too early to tell if this would have any negative impact on medicinal plant conservation in East Asia or globally, and TRAFFIC will be monitoring the situation closely.

Sabri Zain, Advocacy and Campaigns Director, TRAFFIC International; TRAFFIC East Asia

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THE 12TH MEETING OF THE CONFERENCE OF THE PARTIES TO CITES

THE 12TH MEETING OF THE CONFERENCE OF THE PARTIES TO CITES took place in Santiago, Chile, from 3 to 15 November 2002, and was attended by 1200 participants from 141 governments, as well as numerous observer organizations. The following is a summary of what TRAFFIC considers to be the most salient features of the meeting. Official proceedings will be published by the CITES Secretariat.

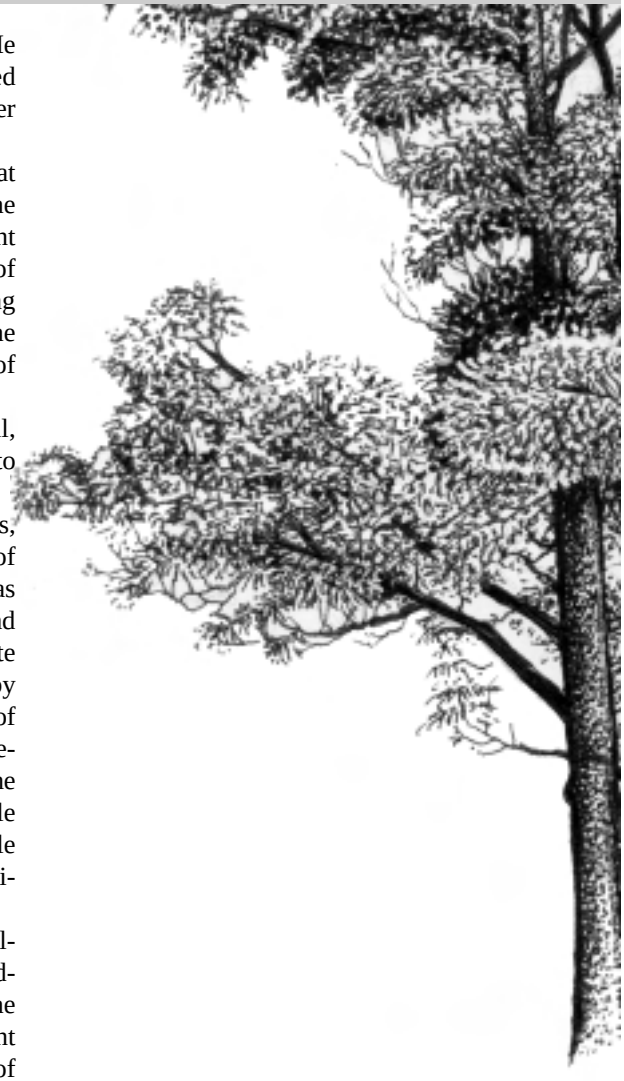
Following the opening ceremony, the Secretary-General of CITES, Mr W. Wijnstekers, observed that the number of Parties to the Convention would increase from 158 to 160 over the course of the meeting, with the ratification and accession, respectively, of Kuwait and Bhutan. He thanked Parties for their financial contributions but expressed serious concerns about the growing gap between the expectations of the Parties and the resources available to meet those expectations, and urged Parties to ensure that provision be made for adequate funding for implementation of any decisions they took. He maintained that the Convention should be playing an enhanced role in the management of commercial fisheries and the timber trade.

The Executive Director of UNEP, Dr K. Töpfer, stated that the meeting represented an opportunity to take forward the agenda of the World Summit on Sustainable Development (WSSD). He emphasized the importance of the outcomes of WSSD to CITES and the role of the Convention in contributing to meeting the targets established at WSSD, particularly the goal of achieving a significant reduction in the current rate of loss of biodiversity by 2010.

The Chairman of the Standing Committee, Mr K. Stansell, asserted that the strength of CITES lay in its ability to adapt to new challenges.

In welcoming participants to the meeting, Mr J. Campos, Minister of Agriculture of Chile, on behalf of the Government of Chile, noted that economic growth for future generations was essentially bound up with protection of the environment and wise management of natural resources. He warned that despite effective action by CITES in the past, the challenge posed by illegal trade remained. Without adequate resources, the ability of CITES to overcome this would be severely impaired. Consequently, he urged the international community, in particular the developed countries, to take on its quota of responsibility. While environmental conservation was an essential part of sustainable development, he noted that of equal importance was the elimination of poverty.

The President of Chile, Mr R. Lagos Escobar, was welcomed to a special session of the meeting, where he commended the work of CITES and noted that the 12th meeting of the Conference of the Parties was the biggest environmental event ever to be held in Chile. He highlighted the global nature of CITES and stressed the need for all countries to work together to protect biodiversity as part of the heritage bequeathed to us by our ancestors. He further stressed the importance of sustainable development to future generations.



DRAWING OF BIGLEAF MAHOGANY *SWIETENIA MACROPHYLLA* BY BRUCE MAHALSKI FOR TRAFFIC

The Secretariat introduced a proposed **Budget for 2003-2005 (Doc. 12.9.1 (Rev. 1))** which was 15% smaller than the budget for the previous triennium but would still require a 12% increase in Parties' contributions. This discrepancy was due to the planned draw-down of the CITES Trust Fund to minimum levels during the last budget cycle which had enabled an increased Secretariat budget without increased contributions from the Parties. After some initial debate a finance working group, chaired by Canada, was established to seek a compromise between those supporting the tabled budget and those wishing to see a revised version with no, or little, increase in Party contributions.

The working group presented two revised budgets for consideration - one requiring a 6% increase in Party contributions and the other a 0% increase. The group also provided guidelines for future budgets and strategies to contain future budgets. Ultimately the Parties agreed to a 2003-2005 budget of approximately USD14 million that represented a 6% increase in Party contributions.

Chile presented **Doc. 12.13.1 Revision of Resolution Conf. 11.1 on Establishment of Committees** which pointed out the inconsistency between the quantity and type of regional representation on the Standing Committee versus the Animals and Plants Committees. Chile's proposal would have increased representation from Africa on the Animals and Plants Committees by two people, and from both Europe and Central and South America and the Caribbean by one person each. However it was decided that representation on the Committees should remain unchanged, primarily due to budgetary implications.

One particular issue had the potential to result in some of the most fundamental changes to the workings of the Convention. The relevant documents, **Doc. 12.13.2 Enhancing Implementation of the Convention** (prepared by the USA) and **Doc. 12.13.3 Review of the Committee Structure** (prepared by the Secretariat), regarded the issue of how CITES can effectively resolve implementation issues. Doc. 12.13.2 outlined various options for dealing with technical and implementation issues, which, it is argued, are not, and cannot be dealt with adequately by the existing permanent committee structure (Animals, Plants, Nomenclature and Standing Committees). Among the options proposed for consideration were: the consolidation of the Animals and Plants Committees into one Scientific Committee and establishment of an implementation committee which would address enforcement-related and other implementation issues; maintain separate Animals and Plants Committees and establish a joint implementation subcommittee; maintain the Animals and Plants Committees, with separate implementation subcommittees for each; or, the creation of a completely separate implementation committee.

Taking the USA's document into account, the Secretariat provided in Doc. 12.13.3 two options for revising Resolution Conf. 11.1: merging the Animals, Plants and Nomenclature Committees into a single scientific committee to lower costs and improve efficiency; or this option, with the addition of establishing a separate implementation committee.

After extensive discussion, it was agreed that changes should not be made to the permanent structure of the Committees because of budgetary implications and the need for varying member composition. Instead, two Decisions were adopted. Decision 12.23 tasks the Standing Committee to: identify typical categories of technical implementation issues that have proved difficult to address under existing Committee structures; establish and implement a process for the Standing Committee to act as a clearing house to direct relevant issues to the appropriate body; and, to report the results of their work to the 13th meeting of the Conference of the Parties. Decision 12.24 includes directions to the Animals and Plants Committees to continue working on primarily science-based technical implementation issues, and to develop recommendations as to how they can assist the Standing Committee's advisory role outlined in Decision 12.23.

The increase in the number of documents and proposals relating to marine fisheries prompted two Parties to present documents seeking to guide the development of a future relationship between **CITES and FAO**. Informal discussions between those Parties, the USA and Japan, resulted in the tabling of a joint document on **Co-operation with other Organizations: CITES and FAO-FAO Collaboration with CITES through a Memorandum of Understanding (Doc. 12.16.2.1/ 16.2.2 addendum)**. The US withdrew its original proposal while Japan gave its support for the joint proposal and offered to withdraw its document on **Co-operation with other Organizations: CITES and FAO Synergy and Co-operation between CITES and FAO (Doc. 12.16.2.1 and Doc. 12.16.2.1 addendum)** if the joint proposal was adopted. The main element of the joint proposal was the development of a Memorandum of Understanding (MoU) between CITES and FAO that would formalize co-operation between the two organizations and thereby facilitate improvements in each organization's ability to contribute to strengthened conservation of aquatic species within their areas of expertise. In discussion of the document, Parties generally recognized that unilateral approaches were limited in their ability to achieve positive conservation outcomes for aquatic species, however it would be important that the mandate of each organization and, by extension, that of regional fisheries organizations, was recognized in an MoU. A more specific issue debated was whether the reference should be to all aquatic species, with some Parties stating that FAO did not have a mandate to deal with all aquatic species. However, it was recognized that the draft wording was deliberately ambiguous in this regard and that it would be extremely difficult to resolve this lack of clarity in the draft document. A number of Parties sought instead to have their views on this matter included in the record. The

Parties noted that the timeframe to finalize an MoU may be lengthy as the FAO's Committee on Fisheries (COFI) only met every two years and it would not be possible for the Standing Committee to develop a draft MoU prior to the 25th meeting of COFI in February 2003. The Parties adopted the decision by consensus.

Norway presented **Doc. 12.17 Sustainable Use of and Trade in CITES Species**, seeking greater alignment of the application of 'sustainable use' within CITES with that of the Convention on Biological Diversity (CBD) and intergovernmental organizations such as FAO. A draft resolution annexed to Doc. 12.17 called on CITES to co-operate with the CBD and FAO to develop guidelines on the interpretation of the principle of sustainable use in that regard. It also called on the CITES Secretariat and Committees to prepare a proposal with regard to applying the CITES listing criteria on this basis, and on the Parties to consider ways of 'validating' the CITES Appendices through a more regular review or introduction of a 'sunset clause' on CITES listings.

Following initial discussions in Committee II, Norway was asked to chair a working group to discuss the documents in more detail. Twenty-five Parties and observers participated in the working group, expressing a range of views on the wider issue of addressing sustainable use within CITES as well as on the draft resolution. There was no consensus within the working group, Norway reporting back to Committee II that while discussions had been fruitful, a substantial difference remained with regard to how to deal with sustainable use in a CITES context. Norway proposed amendments to its draft resolution, however neither these nor the original text was accepted by the Parties. The separate proposal from the Secretariat that Resolution Conf. 10.4 on the co-operation and synergy with the CBD be repealed as part of the process of consolidating resolutions was not accepted, leaving open the possibility that discussions on sustainable use, CITES and the CBD will continue within the framework of that resolution.

Doc. 12.18 Economic Incentives and Trade Policy, prepared by the Secretariat, addressed three main issues: consideration of economic incentives in designing trade policy and the use of economic instruments towards achieving CITES objectives; and, the relationship between CITES and the World Trade Organization (WTO). A draft resolution and decision were annexed to the document linked to these points. Several amendments to the draft resolution were proposed, with areas of concern including recommendations aimed at reducing the use of stricter domestic measures. An amended version was presented during a subsequent meeting of Committee II, but not accepted. Although there was more widespread support for the draft decision calling for organization of a workshop and subsequent research on trade policy and economic incentives, concern was also expressed that work on this issue exceeded the Secretariat's core mandate, especially in view of resource limitations. A revised decision taking into account the comments made was presented in a subsequent session of Committee II and adopted.

Doc. 12.20.2 Results of the Wider Caribbean Hawksbill Turtle Dialogue Meetings was presented in plenary by the UK that noted the success of these meetings. This dialogue process originated when, at the 11th meeting of the Conference of the Parties, Cuba put forward a proposal to transfer from Appendix I to Appendix II those parts of the Caribbean population of Hawksbill Turtle *Eretmochelys imbricata* inhabiting Cuban waters. This proposal was rejected, but it was suggested that a regional Caribbean meeting be held to strengthen regional co-operation for the management of Hawksbill Turtles. After a formal request by Costa Rica, several Parties supported the idea, and the Secretariat proposed that two range States dialogue meetings be held before the 12th meeting of the Conference of the Parties, to discuss and, if possible, reach consensus on the many difficult issues raised.

As a result of these dialogue meetings, a draft resolution and two draft decisions in Annexes 2 and 3 of Doc. 12.20.2 were prepared and submitted for consideration by the Conference of the Parties. The Secretariat also proposed some draft decisions in Annex 4 of Doc. 12.20.3 be adopted by the meeting rather than the draft resolution and draft decisions in Annexes 2 and 3. After a few changes suggested by range States and the Secretariat, including the inclusion of sustainable use as one of the general objectives, the draft decisions in Annex 4 were agreed.

The agenda item providing an overview of CITES enforcement-related issues and developments since the last meeting was presented to Committee II **(Doc. 12.27** on **Enforcement Matters)**. The Secretariat introduced the document, the purpose of which was to focus attention on major problems of implementation and to highlight good enforcement work. Emphasis was placed on the need for better co-ordination and communication at all levels between relevant agencies. The need for more effective reporting was shown to be critical, while not inventing new systems or being overly burdensome on enforcers. There had been a poor response by enforcement staff to the dissemination of the Secretariat's intelligence information and requests for investigations. The new confidential CITES 'Alerts' system had been useful but was not getting to the national enforcement agencies staff who required it. Other issues were explored such as concerns that confidential information was not being treated as such by CITES Management Authorities, and the problem of corruption. The document suggested that Parties employ anti-corruption policies and called for funds for the Secretariat to draw up anti-corruption guidelines. This latter point was withdrawn as it was too extensive a task and funding was not available. The document also highlighted the costs and benefits of working with NGOs on enforce-

ment cases. TRAFFIC was emphasized in a very positive light in this regard but the potential problems of NGOs compromising operations and providing inadmissible evidence was recognized. Of note was the list of Parties that had not designated a CITES Scientific Authority and should not have their permits accepted. The Annex to the document was a draft decision, requesting that the Parties agree to the Secretariat convening a meeting of enforcement experts to identify measures to improve information flow of enforcement data to enforcement agencies, CITES Management Authorities and the Secretariat. The meeting outputs would include a report to the Standing Committee, with a view to recommendations being taken forward to the 13th meeting of the Conference of the Parties. The Secretariat emphasized the budgetary implications of the workshop and the USA requested that a financial explanation of what was required be provided. There was general support for the document, with particular emphasis on the need for more effective co-operation and communication, and the Secretariat was directed to hold the experts meeting (Decisions 12.88 and 12.89).

With respect to **National Laws for the Implementation of the Convention (Doc. 12.28)**, the Secretariat outlined activities that had taken place during Phase 4 of the National Legislation Project (NLP). As a result of Decision 11.132 the Secretariat was required, during Phase 4 of the NLP, to amend the analyses of national legislation and associated ratings and provide assistance to any Parties requiring guidance. The Secretariat described the achievements in respect of the NLP, explaining the methodology and criteria for the legislative analysis process and describing how various Parties have fared in this process. Phase 5 of the NLP is to continue with the provision of advice and assistance and the Secretariat also believes that Phase 5 should start assessing the effectiveness of legislation adopted by the Parties who have been placed in Category 1.

Two draft decisions put forward by the Secretariat were amended and Decisions 12.80 to 12.83 set out the timeframes within which certain countries, falling either within Category 2 or 3, are required to submit a 'CITES Legislation Plan' and/or adopt adequate legislation. Decision 12.83 notes that the Secretariat is to issue a notification recommending a suspension of commercial trade in specimens of CITES-listed species with the relevant countries, should the Parties fail to comply with the provisions of the Decision. The Secretariat may, however, withhold action on such an instruction if good legislative progress has been made by a Party, but shall implement the instruction immediately if adequate legislation had not been adopted by 31 March 2003. The Parties expressed support for the retention of these compliance provisions as they have in the past resulted in action being taken quickly to enact legislation.

A report on the **Conservation of the Leopard, Snow Leopard and Clouded Leopard (Doc. 12.32)** was submitted by India in light of growing concerns about the impact of trade on these big cats to meet demand for skins, bones and other products, and to draw attention to the threats posed to big cats other than the Tiger. The document proposed a new Resolution, the main points of which called upon Parties, particularly range and consumer States, to increase enforcement efforts, pursue clear labelling systems for products containing parts and derivatives of these species, and to develop bilateral and regional agreements to improve conservation and management of these species. Following discussions with other range and consumer States, and noting the recommendations of the Secretariat regarding Resolution Conf. 11.5 on the conservation of and trade in Tigers, Doc. 12.32 was amended and a revised resolution submitted by India was adopted (Resolution Conf. 12.5). This is discussed below under Doc. 12.33.

The Parties considered a document relating to the **Conservation of and Trade in Tigers (Doc. 12.33)**, submitted by the Secretariat, which reported on the implementation of Decisions (13 in total) relevant to the conservation of Tigers. It also served as the report of the Standing Committee, as required by Decision 11.82. The Secretariat recommended that all extant Decisions be deleted as they had been complied with. Doc. 12.33 also put forward the Secretariat's proposed amendments to the existing Resolution Conf. 11.5 on conservation of and trade in Tigers, mainly to streamline the Resolution and to repeal non-Tiger-specific sections. India sponsored a revised document which expanded the existing Resolution Conf. 11.5 away from its Tiger-specific focus to include other Asian big cats listed in CITES Appendix I. This incorporated the proposed amendments of the Secretariat to Resolution Conf. 11.5 and information and recommendations from *A Conservation Priority: Conservation of Tigers and other Asian Big Cats*, TRAFFIC's briefing document on Asian big cats (available at *www.traffic.org*). Subsequently, Resolution Conf. 12.5 on conservation of and trade in Tigers and other Appendix-I Asian big cat species was tabled for discussion and adopted by the Parties. The main points added included recommendations to Parties and non-Parties to: ensure that captive breeding facilities for Tigers and other Asian big cat species were adequately managed to prevent parts and derivatives from entering illegal trade from or through such facilities; consolidate and ensure adequate control of existing stocks of parts and derivatives; establish and fund anti-poaching and enforcement units; establish co-operative bilateral and multilateral arrangements, especially for the management of protected habitats with common boundaries; and, to conduct studies to examine the motivation behind illegal killings so that appropriate measures and responses could be devised. The Tiger Enforcement Task Force was also expanded to include all Asian big cat species.

Four Decisions were also adopted, two of which directed the Parties to report to the Secretariat and to the countries of origin, export or re-export on seizures and investigations regarding illegal shipments of Asian big cat parts or derivatives (Decision 12.29), to consider ways in which local communities may become involved in the conservation of Asian big cats, and to report on such concepts and initiatives at the 49th meeting of the Standing Committee (Decision 12.30). Two Decisions were also directed to the Standing Committee: Decision 12.31 directs the Standing Committee to continue its review of progress in range and consumer States that were earlier subject to CITES Technical and Political Tiger Missions to ensure that recommendations made by the Missions continue to be implemented; the other (12.32) being to report back to the 13th meeting of the Conference of the Parties on progress made by range and consumer States of Asian big cat species, presumably with regard to Resolution Conf. 12.5.

A document **(Doc. 12.39)** prepared by the Secretariat with the Animals Committee reported on the implementation of Decisions pertaining to **Resolution Conf. 11.8 on the Conservation of and Trade in Tortoises and Freshwater Turtles**, with particular reference to Decision 11.150 regarding the convening of a technical workshop. The technical workshop on conservation of and trade in tortoises and freshwater turtles was held in Kunming, China, in March 2002. Recommendations formulated at an earlier workshop on trade in terrestrial and freshwater turtles and tortoises in Asia, held in Cambodia in December 1999, were considered and conservation priorities and actions identified, as well as recommendations for management and regulation of trade. As requested under Decision 11.150, the Secretariat communicated the findings and recommendations of this technical workshop to the Animals Committee at its 18th meeting. Full details, findings and recommendations of the workshop are available at *www.cites.org* in document AC18 Inf. 12 (Rev.).

Based on the outcome of the Kunming workshop, the Animals Committee drafted amendments to Resolution 11.9, subsequently adopted by the Parties at the 12th meeting of the Conference of the Parties (Resolution Conf. 11.9 (Rev. CoP12)). Recommendations from the Kunming technical workshop also included the development of proposals to list selected species in Appendix II. The proposals submitted and results can be found on page 137.

Two Decisions were also adopted: Decision 12.41 directs Parties involved in the commercial trade in tortoises and freshwater turtles to submit a report on the implementation of Resolution Conf. 11.9 (Rev. CoP12); Decision 12.42 directs the Secretariat to evaluate these reports and other information and to report to the next meeting of the Conference of the Parties.

Implementation of Resolution Conf. 10.12 (Rev.) on Conservation of Sturgeons (Doc.12.42.1) was prepared by the Secretariat on behalf of the Animals Committee in accordance with Decisions 11.96 and 11.152. The document related to the Significant Trade Review, the establishment of catch and export quotas, as well as to the progress made in implementing measures agreed upon at the 10th and 11th meetings of the Conference of the Parties. These measures were largely superseded by the actions taken pursuant to the Review of Significant Trade in Specimens of Appendix II species (Resolution Conf. 8.9 (Rev.)) with regard to commercially exploited species of Acipenseriformes.

Parties acknowledged the important efforts made by the Secretariat to improve the status of wild sturgeon populations in the Caspian Sea and Danube River basins. They also recognized the relevance of the long list of recommendations included in the document. Canada, as a range State of North American sturgeon species, insisted that owing to the wide range of their application, extending from protection of sturgeon habitat and stock enhancement, to fisheries management and socio-economic issues, they should be adopted as guidelines and not recommendations. Following a suggested amendment by the Secretariat, Decision 12.50 was adopted which addresses the need for Eurasian range States to develop regional strategies and action plans for the conservation of sturgeon and paddlefish species.

Doc. 12.42.2 Consolidation of Resolutions Relating to Sturgeons and Trade in Caviar was prepared by the Secretariat on behalf of the Animals Committee and proposes the consolidation of Resolutions Conf. 10.12 (Rev.) and 11.13 following the review of their implementation and effectiveness as required under Decisions 11.96, 11.152 and 11.162.

With regard to Decision 11.162 and the universal labelling system for the identification of caviar, the Secretariat issued a series of Notifications to the Parties in 2001 and 2002 that communicated the labelling system adopted by five of the range States and stated that, from 31 December 2001 onwards, Parties would be recommended not to accept shipments of caviar unless these were labelled in accordance with Resolution Conf. 11.13. The principal amendments proposed to the caviar labelling system as indicated in Annexes 1 and 2 to the draft resolution are: the extension of the system to caviar produced for commercial and non-commercial trade, for both domestic and international markets and labelling requirements for re-exports on the basis of non-reusable labels for primary containers of any size (formerly limited to containers of more than 250 g). The draft decision in Annex 3 of Doc. 42.2 stated that, if adopted, the revised labelling system should be implemented by all caviar trading parties no later than 1 January 2004. After inclusion of a few amendments, the consolidated resolution (Resolution Conf. 12.7) was adopted.

Doc. 12.47 Conservation of *Swietenia macrophylla*: Report of the Mahogany Working Group prepared by the Secretariat described the actions developed to accomplish the instructions of Decision 11.4. The report noted the conclusions and recommendations agreed at the meeting of the Mahogany Working Group (MWG) held in Santa Cruz de la Sierra, Bolivia (October 2001), where available information on Appendix III effectiveness, legal and illegal trade, and the status of the species were analysed and discussed. The conclusions emphasized the need to address illegal trade and problems relating to border controls; the need for field studies to assess the status of mahogany populations to promote sustainable management; and, the need for greater information exchange. Comments by the Secretariat included in the report noted that many range States cited a need for better population information to ensure sustainable use, adding that it therefore seemed logical to make the species subject to the provisions of Article IV by including it in Appendix II. The Parties were requested to consider the report and to decide on further actions as appropriate. Following the deliberations of Committee I, where the proposal to list, with effect from 15 November 2003, the neotropical populations of *Swietenia macrophylla* in Appendix II, was agreed (see page 135), the Secretariat suggested that although some recommendations of the MWG remained valid, further meetings of the MWG would not be needed. Nevertheless, other commentators supported the continuation of the MWG and the EU's suggestion to revise the Terms of Reference of the group to include discussion of the capacity needs for effective Appendix II implementation. The continuation of the group was agreed subject to a revision of its mandate and to the availability of external funding.

The CITES Review of Significant Trade provides an extremely important mechanism to resolve concern that exports of particular species listed in Appendix II may be exceeding sustainable levels. The Parties considered **Doc. 12.48.1 Revision of Resolution Conf. 8.9 (Rev.) Trade in Specimens of Appendix-II Species Taken from the Wild**, comprising proposed revisions to Resolution Conf. 8.9 (Rev.). The revised text was based primarily on the results of discussion by the scientific (Animals and Plants) committees since the 11th meeting of the Conference of the Parties, with an emphasis on clarifying, simplifying and consolidating the process. With minor amendments to the draft presented, the Parties adopted Resolution Conf. 12.8, which addressed the need for greater interaction with range States, and increased flexibility for the scientific committees to establish deadlines for range States to respond to recommendations. A process to follow up with range States when Standing Committee recommendations are not implemented was also agreed.

The second issue under consideration was the need for an evaluation of the impact of the Review of Significant Trade. This was called for by both scientific committees due to the need to analyse the factors contributing to the success or failure of the process as a mechanism to secure the conservation of species in trade. As a result, the Parties adopted Decision 12.75 directing the scientific committees to draft terms of reference for the study for consideration at the 13th meeting of the Conference of the Parties. The results of this study will be critical to any further modification of the process necessary to ensure the review serves the best interests of species conservation and sustainable use.

The discussion on **Trade in Time-Sensitive Biological Samples (Doc. 12.51)** was surprisingly heated and controversial in Committee II. The document prepared by the Secretariat, at the request of the Standing Committee, presented the findings of a working group of the Standing Committee established to address issues raised by a failed proposal on this topic at the 11th meeting of the Conference of the Parties. The working group aimed to develop provisions in CITES that would enable the more rapid movement of important biological samples with a time-sensitive element, that have minimal conservation risk. The document submitted to Committee II proposed that the expedited process cover trade in other types of specimens also, such as pre-Convention specimens, artificially propagated/captive-bred specimens and personal effects. Management Authorities would be able to use the simplified procedures for any purpose at their discretion. This would be enacted through a proposed amendment to Resolution Conf. 10.2 (Rev.) included in Annex 1 to the document. During discussions, concerns were again raised about the potential loss of intellectual property rights that may arise with the relaxation of controls on biological samples, a key issue for the Convention on Biological Diversity (CBD). Some expressed their view that this was an inappropriate vehicle to put these simplified procedures forward without further research and discussion in a separate document. The need for simplified procedures for urgent samples was clear to many but that was not the case with these other certificates that were arguably beyond the original intent of the working group. Brazil, China and Mexico, in particular, raised various concerns, particularly that the process did not adequately address the issue of benefit-sharing, which should be addressed within the CBD. The discussion went to a vote and the revision to the resolution was accepted, with 33 votes in favour, 16 against and 16 abstentions. Resolution Conf. 10.2 (Rev.) was recalled and Resolution Conf. 12.3 outlined simplified procedures for issuing permits and certificates. In plenary requests to reopen discussion on this agenda item were rejected by a show of hands: 16 in favour and 58 against.

Revision of Resolutions Conf. 8.15 and Conf. 11.14 on guidelines for a procedure to register and monitor **Operations that Breed Appendix-I Animal Species in Captivity for Commercial Purposes** (**Doc. 12.55.1)**, proposed by the Secretariat, would have significantly changed the procedure used for registering operations that breed Appendix-I animal species for commercial purposes. Doc. 12.55.1 would have eliminated the currently applicable procedure established in Resolution Conf. 8.15 and Conf. 11.14 and instead adopted a modified version of the procedure used for registering operations that artificially propagate Appendix I plant species for commercial purposes, established in Resolution Conf. 9.19. The current procedures for registering operations producing specimens of Appendix-I animal and plant species are much simpler for operations propagating plants. A working group established by the Parties to consider this issue recommended modifying the currently applicable procedure in Resolution Conf. 11.14 instead of replacing it. In short, the group recommended treating plants and animals separately and simplifying procedures to register breeding operations. The working group recommended using the currently applicable framework for registration, but requiring it for all operations that breed specimens of Appendix-I animal species for commercial purposes, rather than for a subset of such operations only, as had been specified in Resolution Conf. 10.16 (Rev.), and Resolution Conf. 11.14. The recommendation of the working group was approved by the Parties as Resolution Conf. 12.10.

Chile put forward a paper on the **Establishment of a Working Group to Analyse Relevant Aspects of the Application of CITES to Marine Species (Doc. 12.61)** which proposed the establishment of a marine species working group. The main purpose of this group was envisaged as addressing scientific and implementation issues concerning the application of CITES to marine fisheries resources. This was the second time that a proposal to form a marine working group had been discussed, with a similar suggestion rejected at the 11th meeting of the Conference of the Parties. Statements by Parties opposing the proposal argued that these issues should be dealt with under the auspices of the FAO and relevant regional fisheries organizations. The recommendation by Parties to move forward and develop an MoU with FAO was also seen by some Parties as a mechanism to address the issues raised in the proposal and that such a group would be premature at this time. The Parties voted by secret ballot and rejected the proposal.

The Parties selected Thailand as the **Venue of the Next Regular Meeting of the Conference of the Parties**, which is scheduled to take place in Bangkok from 2 to 14 October 2004.

Proposals for Amendment of Appendices I and II and other species-specific issues:

African Elephant

With a record number of six amendment proposals, proposed revisions to Resolution Conf. 10.10 (Rev.) on trade in elephant specimens, and scheduled presentations in Committee I on the two CITES monitoring systems, African Elephants *Loxodonta africana* once again dominated the CITES agenda for the meeting. Botswana, Namibia, South Africa and Zimbabwe, whose elephant populations were already in Appendix II, submitted proposals to amend annotation °604 to allow conditional trade in hunting trophies, live animals, raw ivory, hides, leather goods, and, excluding South Africa, ivory carvings. The major effect of these proposals would be to allow all four countries a conditional resumption of trade in raw ivory of national origin through an initial one-off sale of existing stocks of elephant ivory, followed by the establishment of annual export quotas. The proposed one-off sale would have involved 20 t of ivory from Botswana, 10 t from Namibia, 30 t from South Africa and 10 t from Zimbabwe, while the annual export quotas were set at not more than four tonnes, two tonnes, two tonnes and five tonnes of raw ivory for each of these countries, respectively. As a condition of their proposals, Botswana, Namibia and Zimbabwe would be committed to restricting any such trade until May 2004, some 18 months after the adoption of the proposal. Under a slightly different arrangement, South Africa did not propose a time limit on the sale of their ivory stock, but restricted exports to elephant tusks or ivory pieces originating from Kruger National Park that are at least 20 cm in length and one kilogramme in weight. Finally, all countries, except South Africa, imposed conditions on the acceptability of potential trading partners for raw ivory, allowing exports only to "CITES-approved" countries that would ensure that the ivory imported could not be re-exported. In addition to trade in raw ivory, Botswana and Namibia proposed to allow trade in hides, leather goods and worked ivory products, trade options currently not allowed under annotation °604 for any country other than Zimbabwe. In another amendment proposal, Zambia sought the transfer of its population of African Elephants from Appendix I to Appendix II for the purpose of a one-off sale of 17 t of whole ivory tusks currently held by the government, and the export of live animals under "special circumstances". And finally, in a contrary move, Kenya and India submitted a proposal, as they did at the 11th meeting, to transfer all African Elephant populations currently in Appendix II back to Appendix I, arguing that elephant poaching and illegal trade in ivory continued and that listing all elephant populations in Appendix I would be a precautionary measure.

Discussions on the suite of elephant issues commenced at the fifth African Elephant Range States Dialogue meeting, which was convened from 29 to 31 October in Santiago, just prior to the 12th meeting of the Conference of the Parties. As in the past, this meeting allowed African countries with elephant populations an advance opportunity to deliberate on all CITES agenda items pertaining to the species. Facilitated by the CITES Secretariat, chaired by Mr D. Koulagna Koutou from Cameroon, and attended by 24 of the 37 African Elephant range States, the meeting concluded with a communiqué which, among other things, presented a consensus agreement on future trade in elephant ivory. There were two main elements to the consensus. First, Botswana, Namibia, South Africa and Zimbabwe would be allowed a conditional, one-off sale of registered, government-owned stocks of raw ivory of national origin, amounting to the volumes declared in their amendment proposals, to designated and formally-approved trading partners with sufficient controls to ensure that none of the imported ivory would be re-exported, and that it would be managed in full compliance with the provisions of Resolution Conf. 10.10 (Rev.) concerning internal trade in ivory. No such trade would be permitted before May 2004, specifically to allow MIKE (Monitoring of the Illegal Killing of Elephants), the designated monitoring system for tracking the illegal killing of elephants, time to establish and report on baseline information. Secondly, provided that the monitoring systems were able to present the necessary 'feedback' information, and a future meeting of the African Elephant Range States Dialogue agreed, annual quotas for trade in raw ivory could be established in accordance with Resolution Conf. 10.10 (Rev.). In other developments, reservations were expressed about Zambia's proposal and the country was urged to incorporate a number of amendments prior to its presentation at the 12th meeting of the Conference of the Parties. The Dialogue meeting also agreed to certain modifications to Resolution Conf. 10.10 (Rev.) and to submit two draft decisions to Committee I for consideration. Kenya, whose proposal with India to place all elephant populations back in Appendix I was ostensibly rejected by the meeting, objected to the consensus agreement and this was duly noted in the document that came forward to the 12th meeting of the Conference of the Parties.

The Dialogue communiqué, presented in **Doc. 12.20.1 Results of the African Elephant Dialogue Meeting**, formed the basis for the formal deliberations on elephant conservation issues in Committee I. The agenda commenced with presentations on the two CITES-monitoring systems for elephants. Addressing **Doc. 12.34.1 Illegal Trade in Ivory and other Elephant Specimens**, TRAFFIC summarized the three reports on the Elephant Trade Information System (ETIS). These reports included the results of the first comprehensive analysis of the ETIS data, which concluded that illegal trade in ivory is most directly linked to the existence of large-scale, unregulated, domestic ivory markets in Africa and Asia and that, due to the influence of an emerging market in China, illicit trade in ivory has steadily increased since 1998. The ETIS reports recommended the establishment of a formal mechanism under the direction of the Standing Committee to evaluate major domestic ivory markets against the provisions for internal trade in ivory outlined in Resolution Conf. 10.10 (Rev.). Concurrently, and based on **Doc. 12.34.2 Illegal Hunting of Elephants**, a similar presentation on MIKE was given. In this regard, the Director of MIKE outlined progress that had been made with establishing the site-based system in Africa, and future plans for establishing and implementing the system in Asia. In sum, considerable progress in Africa had resulted in over 80% of the sites producing data on a regular basis, while activation of MIKE in Asia was only just beginning owing to the time it had taken to secure adequate funding.

As a consequence of the ensuing discussion on ETIS and MIKE, and following on from the consensus reached at the African Elephant Range States Dialogue meeting, two draft decisions were introduced. The first called upon Parties, donors and organizations "to provide urgent financial and technical support" for the implementation of Resolution Conf. 10.10 (Rev.) with respect to internal trade in ivory in elephant range States. The second endorsed the establishment of an inter-sessional process whereby the Secretariat would evaluate compliance of currently active internal ivory markets with the provisions of Resolution Conf. 10.10 (Rev.) for internal trade in ivory and submit a report on its findings to the 50th meeting of the Standing Committee. In cases of non-compliance, the suspension of all trade in CITES-listed specimens with the Party in question was specifically articulated in the decision as a possible option. The Parties originally named in the draft decision from the Dialogue meeting were Cameroon, China, the Democratic Republic of Congo, Djibouti, Ethiopia, Nigeria, Thailand, Uganda, and the USA, while Japan was added without objection following the discussion in Committee I. Both of these Decisions (12.36 and 12.39, respectively) were adopted by consensus by the Parties.

Proposed revisions to Resolution Conf. 10.10 (Rev.), which stemmed from a submission by Kenya and India found in **Doc. 12.34.3 Revision of Resolution Conf. 10.10 (Rev.) on Trade in Elephant Specimens**, and which had been further revised during the Dialogue meeting and presented in Annex 3 of Doc. 20.1, were introduced, discussed and accepted. The principal changes strengthened requirements for control of domestic ivory markets, established the inter-sessional process under the Standing Committee for evaluating compliance of specified countries with the outlined controls for internal trade in ivory, and provided the basis for an independent technical advisory group to assist with the implementation of MIKE and ETIS. These changes were accepted by consensus.

Other proposed changes to Resolution Conf. 10.10 (Rev.) outlined **in Doc. 12.34.4 Revision of Resolution Conf. 10.10 (Rev.) in Relation to Quotas and Trade in Ivory**, which had been prepared by the CITES Secretariat, were withdrawn.

In accordance with the consensus reached during the African Elephant Range States Dialogue meeting, Botswana, Namibia, South Africa and Zimbabwe amended their original proposals to subject the one-off sale and future annual quotas to the conditions outlined above and contained in Annex 2 of Doc. 20.1. Following a general presentation on elephant conservation in southern Africa by Botswana, each of the proponent countries introduced their proposals with the appropriate amendments. During the ensuing debate, the USA moved to amend the proposals further in a manner that would have the effect of specifically linking the scope of MIKE to both African and Asian Elephants, postpone the one-off sale of raw ivory stocks to a decision of the CITES Standing Committee in 2005, and eliminate the annual quotas altogether. Botswana, rejecting key elements of the US proposal, offered another amended version which eliminated the request for annual quotas, but kept the "not before May 2004" timing, the need for MIKE to report on baseline information, and the requirement for the Standing Committee to certify that all of the agreed conditions had been met. Botswana and Namibia also dropped their request to allow trade in worked ivory products. Because it was less restrictive than the proposal offered by the USA, the Parties voted on Botswana's amended proposal first, approving it in a secret ballot, with 59 in favour, 26 against and 21 abstentions. Namibia's proposal, similarly amended, was accepted in a secret ballot, with 65 in favour, 28 against and 22 abstentions. Likewise, South Africa's proposal was carried by 65 votes in favour, 24 against and 25 abstentions in a secret ballot, but the Parties rejected Zimbabwe's proposal by 60 in favour, 45 against and ten abstentions.

Zambia's proposal sought the transfer of its African Elephant population to Appendix II and a one-off sale of some 17 t of raw ivory. Citing the need for revenue to support elephant conservation, particularly the deficiencies cited in the Panel of Experts report, Zambia acknowledged that there were a number of key issues that needed to be addressed, and accepted a delay until May 2004. In a secret ballot, the Zambian proposal failed to win a two-thirds majority vote and was defeated 57 votes in favour, 54 against and two abstentions.

Finally, during a plenary session, Kenya proposed a decision that would require the Standing Committee at its 49th meeting to further clarify terminology and other procedures in annotation °604 pertaining to the future implementation of MIKE and the basis for concluding that "a detrimental impact" had resulted from any approved trade in ivory under CITES. During discussion, amendments to the proposed decision were offered by Namibia, and accepted by the Parties, to have the Standing Committee, "in consultation with the MIKE Central Co-ordinating Unit and IUCN", define the geographical scope and the nature of the data that would constitute the baseline for MIKE. The final decision also required the Standing Committee "to recommend measures for improving law enforcement co-ordination between ivory producing and ivory importing States".

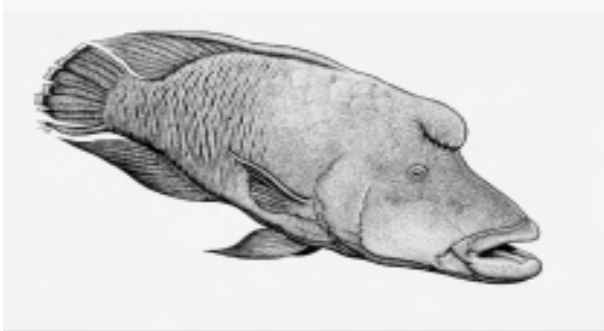
In the final analysis, the Parties generally followed the framework of the consensus that emerged from the African Elephant Range States Dialogue meeting and agreed a compromise that allows selected southern African countries a future opportunity to benefit from a conditional one-off sale of ivory, provided that MIKE becomes operational to the point of establishing a credible baseline. At the same time, the Parties used the results of ETIS to commence actions through an intersessional process against key domestic ivory markets which fail to comply with Resolution Conf. 10.10 (Rev.). This represents a cautious move away from subjecting elephant conservation under CITES to a regimen of strict protection, but subjects future trade to a system of checks and balances. The onus is once again on the CITES monitoring systems to become dynamic instruments that fulfil the requirements of the Parties.

Humphead Wrasse

The USA submitted a proposal to list the Humphead Wrasse *Cheilinus undulatus* in Appendix II. This species, which occurs throughout the Indo-Pacific region, is slow growing, long-lived, and late maturing, making it highly vulnerable to overexploitation. It is the most highly valued of all species in the live reef food fish trade in Asia. Catches for international trade have already resulted in widespread declines in local populations and there is concern that increasing demand for the species will place further pressure on remaining populations in the absence of greater controls. Parties opposing the proposal believed, variously, that FAO should be the responsible agency for commercial fish stocks; that the proposal would be difficult to implement; and, it would not address destructive fishery practices, which were the major cause of the decline in the species. Among the reasons cited by Parties in favour of the proposal was that a listing would help ensure sustainable fisheries practices and would assist in implementing domestic legislation. The proposal was rejected following a secret ballot, with 65 votes in favour, 42 against and five abstentions.

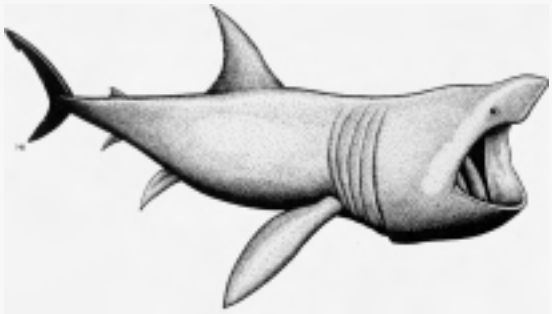
Seahorses and other members of the family Syngnathidae

The USA submitted a proposal to include *Hippocampus* spp. in Appendix II. There are 32 recognized subspecies of seahorses, all falling within the genus *Hippocampus*. It is evident that some species are vulnerable to exploitation and the international trade in specimens for use in aquaria, as curios, and as medicine, has increased significantly in recent years. Of the 23 species currently found in trade, 16 (65%) are classified by IUCN as Vulnerable.



Humphead Wrasse *Cheilinus undulatus*

A proposal to list Humphead Wrasse, used extensively in the live reef food fish trade, in Appendix II was rejected.



Basking Shark *Cetorhinus maximus*

After a narrow defeat in Committee I, the listing in Appendix II of Basking Shark *Cetorhinus maximus* and Whale Shark *Rhincodon typus* succeeded in the final hours of the meeting.

These listings are widely considered landmark decisions as CITES has not traditionally played a major role in global marine fisheries.

The Whale Shark is the largest fish in the world. The listing proposal cited the species' declining numbers and the role of continued international trade in Whale Shark meat, fins, and liver oil. The Basking Shark is highly migratory and is hunted for its meat and fins. It is also caught and killed accidentally as by-catch.

Drawings by Bruce Mahalski for TRAFFIC

Whale Shark *Rhincodon typus*

The listing proposal was informed by a workshop on seahorses and other members of the family Syngnathidae, convened by the Secretariat in the Philippines in May 2002. That workshop recommended the Appendix II-listing and that the effective date of the listing be delayed by 18 months (until May 2004) in order to ensure effective implementation. Parties accepted the proposal and the proposed delay in implementation, with 75 votes in favour, 24 against and 19 abstentions. In plenary, a motion by China, which had opposed the listing proposal, to re-open the debate was defeated, with eight votes in favour and 69 against. Since the 12th meeting of the Conference of the Parties, Indonesia, Japan, Norway and South Korea have taken out reservations with respect to the listing.

Sharks

Two shark species were proposed for listing in Appendix II: the Whale Shark *Rhincodon typus*, proposed by India and the Philippines, and the Basking Shark *Cetorhinus maximus*, proposed by the UK on behalf of the Member States of the EU. These proposals led to intense discussions that focused on both the technical merits of the listing proposals themselves and a broader debate over whether CITES was an appropriate instrument for regulating the trade in commercially-fished marine species. Both proposals were defeated in Committee I by secret ballot, the Whale Shark proposal by 62 votes in favour, 34 against and nine abstentions, and the Basking Shark by 72 votes in favour, 38 against and two abstentions. In the last plenary session of the meeting, discussion on both proposals was reopened for further debate and again put to secret ballot. This time both proposals received the required two-thirds majority to be accepted, with 81 votes in favour of the listing of the Whale Shark (with 37 against and three abstentions) and 82 in favour of the Basking Shark listing (36 against and two abstentions).

Prior to the meeting, the Australian and Ecuadorian governments provided discussion papers on the conservation of sharks (**Doc. 12.41.1** and **Doc. 41.2**, respectively), both containing a draft resolution. The two Parties re-drafted these documents as a joint paper (**Conservation of and Trade in Sharks Doc. 41.2 addendum**) that was presented at the meeting for the consideration of the Parties. In discussing the paper and draft resolution many Parties raised particular concerns over the lack of progress on the implementation of the FAO International Plan of Action on the Conservation and Management of Sharks (IPOA-Sharks). With some suggested changes to the text, Resolution Conf. 12.6 and Decisions 12.47, 12.48 and 12.49 were accepted by secret ballot, with 63 votes in favour and 28 against. The Resolutions and Decisions direct the Animals Committee to monitor the implementation of IPOA-Sharks and to examine information provided by range States in shark assessment reports and other available relevant documents, with a view to identifying key species and examining these for consideration and possible listing under CITES. The Committee was to report on progress at the 13th meeting of the Conference of the Parties.

Toothfish

Australia put forward a proposal to list *Dissostichus* spp. (Patagonian Toothfish and Antarctic Toothfish) in Appendix II and a document **Doc. 12.44 Conservation of and Trade in *Dissostichus* Species**. The proposal to list toothfish was particularly controversial as it related to marine fish targeted in a large-scale commercial fishery managed throughout much of the species' range by a regional fisheries organization - the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR). The proposal included an annotation that sought to establish the basic elements of a complementary relationship between CCAMLR and CITES. The toothfish proposal brought into sharp focus the debate surrounding the relationship between CITES and commercially exploited marine fisheries.

As well as the proposal to list *Dissostichus* spp. in Appendix II, Parties were also presented with a document from Chile on **Co-operation between CITES and CCAMLR Regarding the Trade in Toothfish (Doc. 12.16.1. (Rev. 1)).** This paper included a draft resolution setting out the main elements of co-operation between CITES and CCAMLR and called for CITES Parties engaged in the catch and/or trade in toothfish to adopt the relevant measures of CCAMLR and provide a report on their implementation of these measures. The Secretariat would compile this information for consideration at the 13th meeting of the Conference of the Parties. The premise of the draft resolution was therefore to strengthen CCAMLR's management measures for toothfish through their voluntary uptake by CITES Parties. Parties expressed support for the Chilean draft resolution, with some cautioning of the need to maintain the primacy of CCAMLR in the management of the fishery, while others welcomed greater collaboration between the two organizations in addressing conservation concerns with toothfish. The Secretariat drew attention to certain elements of the draft resolution that were time-bound and suggested that these would be appropriate in a decision. The Parties adopted the resolution by consensus.

Following the adoption by Parties of Resolution Conf. 12.4 on the co-operation between CITES and CCAMLR, Australia withdrew the proposal to list *Dissostichus* spp. in Appendix II and the accompanying document on conservation and trade in toothfish species. There was no discussion of these before they were withdrawn.

Vicuña

Three separate proposals relating to Vicuña *Vicugna vicugna* were adopted by consensus. One, submitted by Bolivia, sought to transfer those of their Vicuña populations that were listed in Appendix I to Appendix II, with the exclusive purpose of allowing international trade in products made from wool sheared from live animals and bearing the label 'VICUÑA-BOLIVIA'. The proposal drew attention to the benefits that would accrue to local communities and Vicuña populations if it were accepted. Japan, joining a number of Parties in support of the proposal, highlighted that this was a good example of sustainable trade contributing to species conservation and community development.

Argentina's proposal to transfer from Appendix I to II the population of Vicuñas in the province of Catamarca, for the exclusive purpose of allowing international trade in wool sheared from live animals, cloth, derived manufactured products and other handicraft artefacts bearing the label 'VICUÑA-ARGENTINA', also received support.

In introducing a proposal to transfer the population of Vicuñas of the Primera Region of Chile from Appendix I to II through a modification of annotations -106 (part of the population of Parinacota Province, 1a. Region of Tarapacá) and +211 (part of the population of Parinacota Province, 1a. Region of Tarapacá), Chile stressed that annotation °606 (for the exclusive purpose of allowing international trade in wool sheared from live Vicuñas of the populations listed in Appendix II) would apply if the proposal were accepted. Some observers were concerned that captive-breeding operations might not benefit local communities and could have a detrimental effect on wild Vicuña populations as the much-needed incentives for the conservation of wild populations are weak or non-existent when "semi-captive" breeding operations are developed as the main management option. They appealed to range States to concentrate more on benefiting local communities and wild Vicuña populations. The Secretariat urged Chile and other range States to harmonize conservation strategies for Vicuñas in the wild.

Whales

Japan introduced its proposals to transfer northern hemisphere stocks of Minke Whale *Balaenoptera acutorostrata* (except the Yellow Sea, East China Sea and Sea of Japan stock) and western North Pacific stocks of Bryde's Whale *B. edeni* from Appendix I to II to enable trade between signatory Parties to the International Convention for the Regulation of Whaling (ICRW). Citing stock abundance, Japan stated that both species fail to meet criteria for Appendix I listing. It further requested an amendment to clarify the proposals' objective: to allow trade "by Parties" to the ICRW, rather than trade "between Parties." After protest by some Parties, delegates voted by a simple majority that the amendment would increase the scope of the proposals and should therefore be disallowed. Discussions were therefore based on the original proposals. Noting robust whale stocks and lack of a scientific basis for Appendix I-listing, many delegates supported Japan's proposals. Norway and Iceland supported the proposals but, with the Russian Federation, raised concerns that the proposals' annotations present implementation challenges and impose unwarranted trade restrictions.

Parties debated the relationship between CITES and the International Whaling Commission (IWC), with Iceland stating that the IWC moratorium had no scientific basis. Pakistan stressed that CITES should be led by its own criteria and Grenada said that whales should not be considered under CITES, if whale-related issues continue to be deferred to the IWC. The Secretariat confirmed the IWC's designated role in dealing with whales and, together with Brazil, stated that the proposals undermine that role.

Canada, Chile, EU, India, Israel, Kenya, Mexico, Monaco, USA and the International Environmental Law Project opposed the proposals, stating that the species do not meet Appendix II listing criteria and that downlisting would cause enforcement problems. Australia outlined implementation problems in distinguishing robust from endangered whale stocks. Fiji questioned the number of whales culled for research and invited Japan to analyse its data. IFAW reported that whale meat from endangered species was being sold on the market, and WWF noted scientific and legal concerns in Japan's proposals and annotations.

In a vote by secret ballot, suggested by Japan, both proposals failed, with 41 votes in favour and 54 against the downlisting of the Minke Whale, and 43 votes in favour and 63 against the downlisting of Bryde's Whale.

Japan reopened the debate on the Minke Whale in plenary, amending its proposal to consider transferring only the Northwestern Pacific stock of Minke Whales to Appendix II. The amended proposal was rejected by secret ballot, with 53 votes in favour and 66 against. The decision to reject the Bryde's whale proposal was adopted in plenary.

It is interesting to note that similar whale proposals presented at the ninth and 10th meetings of the Conference of the Parties received simple majorities.

Mexico introduced a document on the **Co-operation between CITES and the IWC (Doc. 12.16.4)**, while Japan introduced a proposal on abundant cetacean stocks (Doc. 12.38). Both these documents were withdrawn following the rejection of the proposals to transfer from Appendix I to Appendix II stocks of the two whale species.

Flora

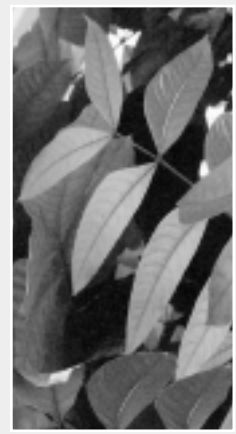
Discussion of the trade in medicinal plants included consideration of work on **Devil's Claw *Harpagophytum* spp.** undertaken since the 11th meeting of the Conference of the Parties **(Doc. 12.46)**, when a proposal to include this genus in Appendix II was considered and subsequently withdrawn.

All species in the genus ***Guaiacum*** - small evergreen trees and shrubs of the Americas - were included in Appendix II at the request of the member States of the EU. Two species - *G. officinale* and *G. sanctum* - were already listed in Appendix II, their wood traded internationally for medicinal and other purposes. The amendment expanded coverage to species such as *G. coulteri*, traded internationally for mechanical bearings (e.g. for boat propeller shafts), and *G. angustifolium*, native to the southwestern USA and northern Mexico and used locally for soap and medicinal purposes.

OPUNTIA BRASILIENSIS > the proposal to remove cacti species in the subfamily Opuntioideae from Appendix II was withdrawn. High volumes of wild specimens of a few *Opuntia* species have been exported on occasion from Mexico and the USA in recent years.

MONKEY PUZZLE TREE > ***ARAUCARIA ARAUCANA*** a long-lived conifer endemic to Chile and Argentina, the species is used for timber and as a horticultural plant. The proposal to include non-native populations in Appendix I was accepted.

MAHOGANY > ***SWIETENIA* SP.** Bigleaf Mahogany *Swietenia macrophylla* is one of the most valuable tropical timber species in international trade. Neotropical populations of this species were included in Appendix II, effective 15 November 2003.



< ***CYMBIDIUM* SP.**

a proposed annotation intended to reduce the trade in wild-collected orchids by increasing incentives for trade in artificially propagated specimens was discussed at the meeting.

< ***DENDROBIUM* SP.**

the proposed annotation, referred to above, intended to exclude from CITES controls artificially propagated specimens of hybrids within six orchid genera. It was amended at the meeting to include *Phalaenopsis* species only, and accepted.

< ***DUDLEYA* SP.**

Santa Barbara Island Dudleya *Dudleya traskiae*, a small succulent plant species endemic to an island in North America, was transferred from Appendix I to II. There is no evidence of illegal collection or trade in this protected species.

PHOTOGRAPHS: K. LOCHEN/TRAFFIC

Nicaragua introduced **Doc.12.50** to include **Bigleaf Mahogany *Swietenia macrophylla*** in Appendix II, believing that the current Appendix-III listing was inadequate to address many of the concerns associated with trade in the species. They noted that not all range States had included the species in Appendix III, and that this had led to problems with the implementation of the Convention. They stressed that the proposed Appendix-II listing would only cover populations occurring in the Americas.

Guatemala, as co-proponent, suggested the proposal be amended so that the Appendix-II listing would not take place until one year after the meeting. The Secretariat explained that an Appendix-II listing would require that a non-detriment finding be made.

Costa Rica, speaking on behalf of the Central American Commission for Environment and Development, and supported by Ecuador, Mexico and the UK, were in favour of the proposal, noting that populations were still declining and that an Appendix-II listing would support sustainable use. Denmark, on behalf of the Member States of the EU, stated that an Appendix-II listing would not be used to ban imports. Indonesia and the observer from Greenpeace also supported the proposal.

Bolivia, Brazil, Ghana and Peru did not support the proposal, Ghana believing the International Tropical Timber Organization to be the more appropriate body for managing the species. Bolivia outlined its new forestry management system, stating that mahogany was not threatened in Bolivia and it urged the range States that had not yet done so to list the species in Appendix III.

Noting there was no consensus, a vote conducted by secret ballot was proposed, the result of which was 68 in favour, 30 opposed and 14 abstentions. The proposal was therefore accepted. Brazil expressed its concern that a CITES Appendix II-listing would hinder the access of mahogany to consumer markets and hoped that procedures established in the Convention for monitoring the international trade of mahogany would fully take into account the national laws and regulations of the exporting countries.

Reports from the meeting were contributed by:

C. Allan, A. Barden, S. Broad, X. Buitrón, M. Burgener, K. Davis, S. Habel, K. Lochen, T. Milliken, T. Mulliken, R. Parry-Jones, C. Raymakers, A. Reuter, G. Sant, A. Willock and S. Zain. Information was also extracted from the minutes of the meeting available at www.cites.org.

Decisions on Amendment Proposals at the 12th Meeting of the Conference of the Parties to CITES

The following pages summarize the proposals that were adopted, rejected and withdrawn at the 12th meeting of the Conference of the Parties to CITES held, from 3 to 15 November 2002, in Santiago, Chile. Unless otherwise indicated, the decisions entered into force on 13 February 2003. The countries that put forward the proposals are named in parentheses.

SPECIES	PROPOSALS (PROPONENT)	RESULT
	Amendment of annotation °607 to exclude from the Convention synthetically derived DNA that does not contain any part of the original; urine and faeces; synthetically produced medicines and other pharmaceutical products such as vaccines that do not contain any part of the original genetic material from which they are derived; and fossils (Switzerland)	WITHDRAWN
FAUNA Lovebirds *Agapornis* spp. *Barnardius* spp. *Platycercus* spp. Yellow-crowned Parakeet *Cyanorhamphus auriceps* New Zealand Parakeet *C. novaezelandiae* Alexandrine Parakeet *Psittacula eupatria* Ring-necked Parakeet *P. krameri* Java Sparrow *Padda oryzivora*	Annotation to exclude colour morphs produced by captive breeding (Switzerland)	REJECTED [as amended]
Black Sea Bottlenose Dolphin *Tursiops truncatus ponticus*	Transfer from Appendix II to Appendix I (Georgia)	ACCEPTED [as amended to retain in Appendix-II with zero export quota for live specimens from the Black Sea population of *Tursiops truncatus* removed from the wild and traded for primarily commercial purposes]
Minke Whale *Balaenoptera acutorostrata*	Transfer from Appendix I to Appendix II of northern hemisphere populations (except the Yellow Sea, East China Sea and Sea of Japan populations) with annotation (Japan)	REJECTED
Bryde's Whale *Balaenoptera edeni*	Transfer from Appendix I to Appendix II of the western North Pacific population (Japan)	REJECTED [as amended Okhotsk Sea-West Pacific stock only]
African Elephant *Loxodonta africana*	Amendment of annotation °604 regarding the population of Botswana (Botswana)[1]	ACCEPTED [as amended]
African Elephant *Loxodonta africana*	Amendment of annotation °604 regarding the Namibian population (Namibia)[1]	ACCEPTED [as amended]
African Elephant *Loxodonta africana*	Amendment of annotation °604 regarding the South African population (South Africa)[1]	ACCEPTED [as amended]
African Elephant *Loxodonta africana*	Transfer of the Zambian population from Appendix I to Appendix II for the purpose of allowing trade in raw ivory under a quota of 17 000 kg of whole tusks obtained from management operations; and live sales under special circumstances (Zambia)	REJECTED
African Elephant *Loxodonta africana*	Amendment of annotation °604 regarding the population of Zimbabwe (Zimbabwe)	REJECTED
African Elephant *Loxodonta africana*	Transfer to Appendix I of populations currently included in Appendix II (India, Kenya)	WITHDRAWN
Vicuña *Vicugna vicugna*	Transfer from Appendix I to Appendix II of the population of Vicuña of the province of Catamarca (Argentina)	ACCEPTED
Vicuña *Vicugna vicugna*	Transfer to Appendix II of the populations of Bolivia that are in Appendix I (Bolivia)	ACCEPTED
Vicuña *Vicugna vicugna*	Transfer from Appendix I to Appendix II of the population of the Primera Región of Chile (Chile)	ACCEPTED
Lesser Rhea *Rhea pennata pennata*	Transfer from Appendix I to Appendix II of the Chilean population (Chile)	ACCEPTED
Yellow-naped Amazon *Amazona auropalliata*	Transfer from Appendix II to Appendix I (Costa Rica)	ACCEPTED

Yellow-headed Amazon *Amazona oratrix*	Transfer from Appendix II to Appendix I (Mexico)	ACCEPTED
Blue-headed Macaw *Ara couloni*	Transfer from Appendix II to Appendix I (Germany)	ACCEPTED
Brown-necked Parrot *Poicephalus robustus*	Transfer of the South African population from Appendix II to Appendix I (South Africa)	WITHDRAWN
Big-headed Turtle *Platysternon megacephalum*	Inclusion in Appendix II (China, USA)	ACCEPTED
Annam Pond Turtle *Annamemys annamensis*	Inclusion in Appendix II (China, Germany)	ACCEPTED
Heosemys spp.	Inclusion in Appendix II (China, Germany)	ACCEPTED [as amended to refer to *Heosemys depressa, H. grandis, H. leytensis and H. spinosa* (and not *Heosemys* spp.).]
Yellow-headed Temple Turtle *Hieremys annandalii*	Inclusion in Appendix II (China, USA)	ACCEPTED
Kachuga spp. (except *K. tecta*)	Inclusion in Appendix II (India, USA)	ACCEPTED
Sulawesi Forest Turtle *Leucocephalon yuwonoi*	Inclusion in Appendix II (China, Germany)	ACCEPTED
Yellow Pond Turtle *Mauremys mutica*	Inclusion in Appendix II (China, USA)	ACCEPTED
Malaysian Giant Turtle *Orlitia borneensis*	Inclusion in Appendix II (China, Germany)	ACCEPTED
Keeled Box Turtle *Pyxidea mouhotii*	Inclusion in Appendix II (China, USA)	ACCEPTED
Black Marsh Turtle *Siebenrockiella crassicollis*	Inclusion in Appendix II (China, USA)	ACCEPTED
Chitra spp.	Inclusion in Appendix II (China, USA)	ACCEPTED
Giant softshell turtles *Pelochelys* spp.	Inclusion in Appendix II (China, USA)	ACCEPTED
Hoplodactylus spp. and *Naultinus* spp.	Inclusion in Appendix II (New Zealand)	REJECTED
Orange-throated Race-runner *Cnemidophorus hyperythrus*	Deletion from Appendix II (USA)	ACCEPTED
Whale Shark *Rhincodon typus*	Inclusion in Appendix II (India, the Philippines)	ACCEPTED
Basking Shark *Cetorhinus maximus*	Inclusion in Appendix II (UK)	ACCEPTED
Seahorses *Hippocampus* spp.	Inclusion in Appendix II (USA)	ACCEPTED [as amended, effective 15 May 2004]
Humphead Wrasse *Cheilinus undulatus*	Inclusion in Appendix II (USA)	REJECTED
Patagonian Toothfish *Dissostichus eleginoides* Antarctic Toothfish *D. mawsonii*	Inclusion in Appendix II, with annotation (Australia)	WITHDRAWN
Sri Lankan Rose *Atrophaneura jophon A. pandiyana*	Inclusion in Appendix II (Germany, on behalf of the EU)	ACCEPTED
Papilio aristophontes P. nireus and *P. sosia*	Inclusion in Appendix II (Germany, on behalf of the Member States of the EU)	WITHDRAWN

FLORA		
Monkey Puzzle Tree *Araucaria araucana*	Inclusion in Appendix I (all populations) (Argentina)	ACCEPTED
All CACTACEAE taxa listed in Appendix II	Amendment of the text of the annotation °608 that refers to artificially propagated specimens (cultivars) of *Gymnocalycium mihanovichii* forms lacking chlorophyll (Switzerland)	ACCEPTED
Opuntioideae spp.	Deletion from Appendix II (Switzerland)	WITHDRAWN
Pereskioideae spp. *Pereskiopsis* spp. *Quiabentia* spp.	Deletion from Appendix II (Switzerland)	WITHDRAWN
Sclerocactus nyensis	Transfer from Appendix II to Appendix I (USA)	ACCEPTED
Sclerocactus spinosior ssp. *blainei*	Transfer from Appendix II to Appendix I (USA)	WITHDRAWN
Santa Barbara Island Dudleya *Dudleya traskiae*	Transfer from Appendix I to Appendix II (USA)	ACCEPTED
Aloe thorncroftii	Transfer from Appendix I to Appendix II (South Africa)	ACCEPTED
Bigleaf Mahogany *Swietenia macrophylla*	Inclusion in Appendix II of the neotropical populations, including logs, sawn wood, veneer sheets (Nicaragua)	ACCEPTED [as amended, effective 15 November 2003]
ORCHIDACEAE spp.	Annotation to exclude artificially propagated specimens of hybrids within the genera *Cattleya*, *Cymbidium*, *Dendrobium (phalaenopsis* and *nobile* types only), *Oncidium*, *Phalaenopsis* and *Vanda*, including their intergeneric hybrids (USA)	ACCEPTED [as amended for hybrids within the genus *Phalaenopsis* only]
Desert-living Cistanche *Cistanche deserticola*	Deletion of the annotation to *Cistanche deserticola* in Appendix II (China)	ACCEPTED
Maguire's Bitter-root *Lewisia maguirei*	Deletion from Appendix II (USA)	ACCEPTED
Guaiacum spp.	Inclusion in Appendix II of all parts and derivatives, including wood, bark and extract (Germany)	ACCEPTED [as amended to replace the proposed annotation with existing annotation #2]

[1]*Populations of Botswana, Namibia and South Africa (listed in Appendix II):*
For the exclusive purpose of allowing: 1) trade in hunting trophies for non-commercial purposes; 2) trade in live animals for in situ conservation programmes; 3) trade in hides; 4) trade in leather goods for non-commercial purposes; 5) trade in registered raw ivory (for Botswana and Namibia, whole tusks and pieces; for South Africa, whole tusks and cut pieces of ivory that are both 20 cm or more in length and one kilogramme or more in weight) subject to the following: i) only registered government-owned stocks, originating in the State (excluding seized ivory and ivory of unknown origin) and, in the case of South Africa, only ivory originating from the Kruger National Park); ii) only to trading partners that have been verified by the Secretariat, in consultation with the Standing Committee, to have sufficient national legislation and domestic trade controls to ensure that the imported ivory will not be re-exported and will be managed in accordance with all requirements of Resolution Conf. 10.10 (Rev. CoP12) concerning domestic manufacturing and trade; iii) not before May 2004, and in any event not before the Secretariat has verified the prospective importing countries, and the MIKE programme has reported to the Secretariat on the baseline information (e.g. elephant population numbers, incidence of illegal killing); iv) a maximum of 20 000 kg (Botswana), 10 000 kg (Namibia) and 30 000 kg (South Africa) of ivory may be traded, and despatched in a single shipment under strict supervision of the Secretariat; v) the proceeds of the trade are used exclusively for elephant conservation and community conservation and development programmes within or adjacent to the elephant range; vi) only after the Standing Committee has agreed that the above conditions have been met. On a proposal from the Secretariat, the Standing Committee can decide to cause this trade to cease partially or completely in the event of non-compliance by exporting or importing countries, or in the case of proven detrimental impacts of the trade on other elephant populations. All other specimens shall be deemed to be specimens of species included in Appendix I and the trade in them shall be regulated accordingly.

TRADE IN PIPEHORSES *SOLEGNATHUS* SPP. FOR TRADITIONAL MEDICINE IN HONG KONG

Keith M. Martin-Smith, Timothy Fung-ngai Lam and Samuel Kwok-hung Lee

Pipehorses - large members of the seahorse family Syngnathidae - *are highly valuable ingredients in traditional Chinese medicine (TCM). The volume, value, sources and trade routes of pipehorses in international trade remain poorly understood, however. This study, carried out in Hong Kong SAR (Special Administrative Region) in January 2002, provides first estimates of these variables from interviews with wholesalers, retail surveys and Customs data. It appears that at least 1000-2000 kg of pipehorses are traded each year within Hong Kong, with a retail value of HKD2700-6700 per kg. Historically, Australia has been the most important source nation. However, indirect estimates from Customs data suggest that Malaysia, the Philippines and particularly Thailand may also be important exporters of pipehorses to Hong Kong. The effect of trade on the survival of pipehorse populations cannot be evaluated at present. To ensure long-term sustainability of pipehorse trade and to avoid the need to consider listing under CITES, increased engagement with TCM stakeholders is required. This will allow more precise evaluation of the trade, determination of alternatives to pipehorses in TCM and acceptability of management measures or controls. In addition, reporting by genus or species from other source and import nations is urgently required to determine the global effects of trade on pipehorses.*

INTRODUCTION

The international trade in marine fishes of the family Syngnathidae - seahorses and their relatives - has been the subject of increasing concern in recent years (Vincent, 1995, 1996). Dried specimens are prized in traditional medicine - traditional Chinese medicine (TCM) in particular - and are used as curios. Live seahorses and some pipefish are traded as aquarium fishes. Declines in catches of up to 50% from some seahorse fisheries were reported over a five-year period in the early 1990s (Vincent, 1996). Further work since 1996 has indicated declines in the commonly traded species in a number of countries (Project Seahorse, unpublished data). In response to declines and perceived threats, 37 species of syngnathid were first listed in the IUCN Red List in 1996 (Ballie and Groombridge, 1996), although a number of the species' names used have since been revised (Lourie *et al*., 1999). Forty-five species of syngnathid are found on the 2002 IUCN Red List (Hilton-Taylor, 2002). In recognition of continuing declines and potential trade threats, seahorses (genus *Hippocampus*) were accepted for listing in CITES Appendix II in November 2002 (CITES, 2002).

Apart from seahorses, other syngnathids extensively traded internationally include pipehorses[1] of the genus *Solegnathus* and the Double-ended Pipefish *Syngnathoides biaculeatus*. It is believed that these animals are traded almost exclusively as dried specimens for the TCM trade. Pipehorses are perceived to be of high medicinal value and are among the most valuable syngnathids in TCM (Vincent, 1996). They have similar medicinal uses to seahorses (see Box 1). Global trade in pipehorses is poorly understood. Vincent (1996) provided limited data on imports and exports for some countries including Australia, China, Hong Kong, the Philippines and Taiwan. However, it was not possible to extract quantitative data from the figures provided as trade records lumped pipehorses with pipefishes. In 2002, the only country reporting trade (exports) in pipehorses separately was Australia, although a number of other countries reported trade for pipehorses and pipefishes combined.

There are no known target fisheries for pipehorses as they are generally found in deep water and at low abundance. The source of pipehorses for trade is incidental bycatch from non-selective fishing gears (see Box 2).

As one component of a larger study to investigate global trade in pipehorses, a study was conducted in Hong Kong. This region was selected for its known involvement in the trade (Vincent, 1996) and because of the work being done in the region by the Marine Medi-

ILLUSTRATION OF A DRIED SPECIMEN OF HARDWICK'S PIPEHORSE PROJECT SEAHORSE

[1]The Chinese names for *Solegnathus* spp. (*da hai long*) and *Syngnathoides biaculeatus* (*xiao hai long*) in TCM are often translated as 'seadragon' (large and small respectively). However, in general English language usage, seadragon is reserved for the two endemic Australian species - the Leafy Seadragon *Phycodurus eques* and the Common or Weedy Seadragon *Phyllopteryx taeniolatus* - neither of which is used in TCM. In New Zealand, *Solegnathus spinosissimus* is often called the Spiny Seadragon. For consistency, in this paper the term 'pipehorse' will be used for all *Solegnathus* spp.

cinal Conservation Programme of Project Seahorse (MMCP-PS), in collaboration with TRAFFIC East Asia. The objectives of the study were to determine which species were involved in the trade, their biological characteristics, volumes traded and prices for which they were sold, and trade routes.

Distribution and Status

Pipehorses have a long, narrow body, prehensile tail, extended snout and reduced or absent fins (Figure 1). The body is surrounded by dermal plates in a series of rings which create a very rigid structure that maintains its shape even when the animal is dead. Spines and tubercles (small, rounded nodules) are also present on the body surface. Pipehorses can grow to more than 50 cm in length and weigh 150 g wet weight (67 g dry weight), making them the largest syngnathids (see Box 3).

Pipehorses are found in the Indo-Pacific from Japan and the South China Sea southwards through the Philippines and Indonesia to Australia and New Zealand (Figure 2). Understanding of the distribution of species within the genus is limited owing to uncertain taxonomy and their preference for deep-water habitats. The genus *Solegnathus* includes at least five species (Dawson, 1985), although as many as nine species have been suggested (Kuiter, 2000). At least two species are endemic to Australia with narrow geographic ranges: Duncker's Pipehorse *Solegnathus dunckeri* and the Robust Pipehorse *S. robustus*. Two further species have slightly larger geographic ranges - the Spiny Pipehorse *S. spinosissimus* and Günther's Pipehorse *S. lettiensis* - while one species, Hardwick's Pipehorse *S. hardwickii*, appears to be widely distributed although it may prove to be a complex of different species (Kuiter, 2000). All five species recognized by Dawson (1985) are classified as Vulnerable in the 2002 IUCN Red List on the basis of their actual or potential levels of exploitation (Hilton-Taylor, 2002).

Legislation

No international legislation directly regulates trade in pipehorses. Australia, the range nation with the most species (Figure 2), has domestic legislation that protects pipehorses at both State and federal levels. All syngnathids have been protected in Australian Commonwealth (federal) waters (greater than three nautical miles from the coast) since the beginning of 1998. As most pipehorses are caught in Commonwealth waters they are protected under the *Environment Protection and Biodiversity Conservation Act 1999* wherein they are 'listed marine species'. It is an offence to take, trade, injure or kill listed marine species except under permits issued by the Minister of the Environment. Such permits for exports of syngnathids are issued subject to a management plan which must be approved by the executive agency, Environment Australia (within the Department of Environment and Heritage). Legal protection is variable for pipehorses caught in Australian State waters (less than three nautical miles from the coast), ranging from full to no protection. In other range nations such as New Zealand, Indonesia and the Philippines, pipehorses are subject to the provisions of fisheries legislation but receive no specific protection. Thus, for example, pipehorses may not be a targeted catch in New Zealand but there are no restrictions on the retention and sale of those caught as bycatch.

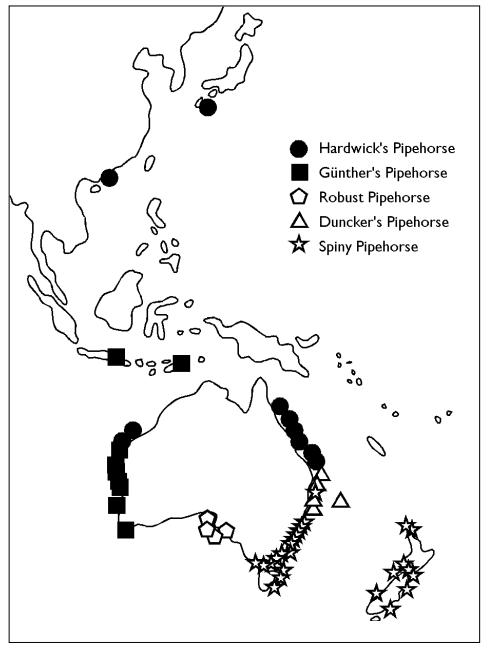
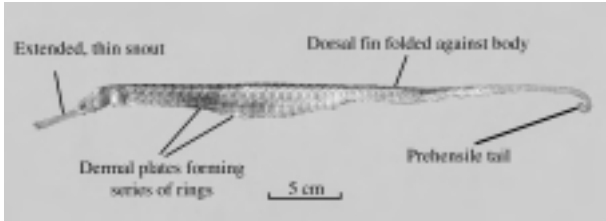


Figure 2. Known geographical distribution of pipehorses (modified from Dawson, 1985).



K. MARTIN-SMITH/ PROJECT SEAHORSE

Figure 1. Dried specimen of Hardwick's Pipehorse showing characteristic body morphology.

Methods

Three approaches were used to obtain data on the trade in pipehorses in Hong Kong for use in TCM: through interviews with importers/wholesalers, surveys of retail outlets, and examination of Customs data.

Owing to the limited time available for this study, it was not possible to contact the circa 400 TCM importers/wholesalers who operate in Hong Kong. A local TCM trader association was contacted and a meeting arranged on 4 January 2002 with five TCM traders (importers/wholesalers) who have been engaged in syngnathid trade. The purpose of the study was explained and the traders were asked for help in

S.K. LEE/TRAFFIC

BOX 1. THE PREPARATION AND USES OF PIPEHORSES IN TCM

PIPEHORSES are invariably caught as incidental bycatch (see Box 2). It is believed that all international trade in pipehorses involves dried animals. If they are retained by fishers, they may be dried immediately after sorting on board the vessel, or frozen for later drying. On receipt by TCM importers or wholesalers, the skin and viscera are removed, the specimens washed clean and left to dry in the sun. As pale pipehorses are considered to be more efficacious in TCM, the animals may also be bleached at this stage. Although some pipehorses may be incorporated into prepared medicines, it is believed that the vast majority of animals traded are sold whole through TCM retailers owing to their large size since large syngnathids are considered to be more efficacious in TCM. Under the TCM system, illness is caused by an imbalance between the complementary principles of yang (maleness, creation, heat, light, sun, dominance) and yin (femaleness, completion, cold, darkness, moon, submission). Pipehorses have a similar function in TCM to seahorses - to invigorate the *yang*. The Chinese Materia Medica of the Pharmacopoeia Commission of the Ministry of Health, People's Republic of China, states that the function of pipehorses is "to warm the kidney and promote virility, to reduce modulation, and to induce subsidence of swelling" while the indications for use include: impotence and seminal emission; mass in the abdomen; scrofula; traumatic injuries; external use for carbuncles and boils. Other reported uses include the treatment of respiratory problems, throat infections and difficult childbirth (Bensky and Gamble, 1993; Vincent, 1996). For external use the pipehorse is ground into powder and applied topically. When taken internally, pipehorses are used as one part of a prescription, the other ingredients being dependent on the nature of the problem. The pipehorse is broken into several pieces which may be steeped with other ingredients or added to a 'soup' which is then drunk.

Figure 3 (above). Syngnathids for sale in a traditional medicine shop in Hong Kong: pipehorses (jar in centre of picture), pipefish (bundle in foreground) and seahorses (jar on left).

Species	Number measured	Mean total length mm±SE (range)	Mean dry weight g±SE (range)	% Juveniles[1]	Sex ratio (male: female:undet.)	% mature males with egg scars	Mean price per kg ±SE (range)
Duncker's Pipehorse *Solegnathus dunckeri*	11	361±5 (331-389)	13.0±0.9 (10-17)	9	7:2:2	71	HKD4320±210 (2670-6670)
Hardwick's Pipehorse *Solegnathus hardwickii*	248	383±3 (290-517)	20.4±0.7 (5-47)	8	95:75:78	75	HKD4320±210 (2670-6670)
Spiny Pipehorse *Solegnathus spinosissimus*	12	328±3 (315-345)	9.3±1.5 (5-17)	0	4:0:8	50	HKD 5330

Table 1. Characteristics of pipehorses for sale in Hong Kong during January 2002.
[1]*Male size at maturity from Dawson (1985) is: Duncker's Pipehorse 337 mm; Hardwick's Pipehorse 296 mm; Spiny Pipehorse 206-300 mm. Male size at maturity from Connolly* et al. *(2001) is: Hardwick's Pipehorse 322 mm.*

Wholesaler number	Participation level (%)	Est. volume (kg) traded per year	Est. turnover HKD million (range)	Retailer number	Participation level (%)	Est. volume (kg) traded per year (range)	Est. turnover HKD million (range)
400	10	360	1.80 (1.56-1.98)	1000	10	660 (60-1170)	2.87 (0.16-7.80)
	20	720	3.60 (3.12-3.96)		20	1320 (120-2340)	5.74 (0.32-15.61)
	30	1080	5.40 (4.68-5.94)		**30**	**1980 (180-3510)**	**8.61 (0.48-23.41)**
	40	1440	7.20 (6.24-7.92)		40	2640 (240-4680)	11.48 (0.64-31.22)
600	10	540	2.70 (2.34-2.97)	2000	10	1320 (120-2340)	5.74 (0.32-15.61)
	20	1080	5.40 (4.68-5.94)		20	2640 (240-4680)	11.48 (0.64-31.22)
	30	1620	8.10 (7.01-8.91)		**30**	**3960 (360-7020)**	**17.23 (0.96-46.82)**
	40	2160	10.80 (9.35-11.88)		40	5280 (480-9360)	22.97 (1.28-62.43)

Table 2. Estimates of retail volumes and values of pipehorses in Hong Kong in 2002.
Numbers of wholesalers and retailers were lower and upper approximations based on the experience of MMCS-PS in Hong Kong. Levels of participation in pipehorse trade were chosen to span the observed level in the retail trade (given in bold).

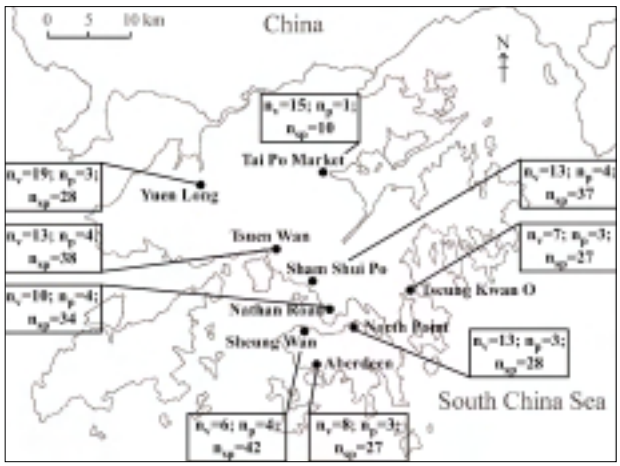


Figure 4. Sampling locations and sample sizes for study of pipehorse retail trade in Hong Kong.
n_v= number of shops visited; n_p= number of shops stocking pipehorses; and, n_{sp}= number of pipehorse specimens identified and measured.

obtaining trade information. They were reluctant to disclose trade information in the presence of other traders whom they perceived as potential competitors, and instead gave vague and generic descriptions. A visit and interview was subsequently arranged on 8 January 2002 with one of these five traders: he provided information on his trade routes, volumes, sizes and the value of pipehorses that he had traded over the previous five years. Attempts to follow up with other importers/wholesalers who were present at the first meeting were unsuccessful.

For retail surveys, three suburbs in each of Hong Kong Island, Kowloon and the New Territory were selected and surveyed between 8 and 28 January 2002 (Figure 4). These nine suburbs, distributed across Hong Kong were considered by MMCP-PS and TRAFFIC East Asia to be representative of the general demand for TCM in Hong Kong; they included the two most widely-known areas for the medicinal trade - Sheung Wan and the Mongkok section of Nathan Road. Between six and 19 shops were visited in each suburb in order to obtain a sample size of three or four retail outlets with pipehorses, excepting Tai Po Market where only a single shop stocking pipehorses was found (sample sizes shown in Figure 4). These shops were selected at random to represent the full spectrum of retail operations within each suburb.

The sampling design used was to select randomly and measure up to ten pipehorses per species per shop. Previous experience of the MMCP-PS when carrying out surveys for seahorses suggested that access to the entire stock and communication with retail assistants was facilitated by purchasing some individuals. Thus, two pipehorses per establishment were bought and retained as a reference collection representing the range of species and size. If fewer than 10 pipehorses were available then all individuals were measured. There was a minimum sample size of five pipehorses per shop (Figure 4). The species of pipehorse was identified and the adults sexed from information given in Connolly *et al.* (2001) and Bowles (2001). However, there were diffi-

BOX 2. FISHING FOR PIPEHORSES: NON-SELECTIVE GEAR AND INCIDENTAL BYCATCH

PIPEHORSES are a good example of incidental bycatch. Bycatch is the capture of organisms other than those that are being targeted in the fishery. It may have impacts on fisheries, biodiversity and ecosystem function. The highest levels of bycatch are found with benthic gear, particularly prawn and shrimp trawls or mollusc dredges. The fate of bycatch when it is landed on a vessel depends on many factors including: species, length of time it has been in contact with the fishing gear, depth from which it has been caught, fullness of trawl net, etc. Bycatch may be retained or discarded. Species may be retained because they can be eaten or sold and this is often termed byproduct. In fisheries where there is regulation of target catch, retained bycatch may provide an economic subsidy to the fishery. Discarded bycatch can be dead or alive when returned to the water - dead organisms will provide food for scavengers as may some of the live organisms as they descend through the water column or are returned to unsuitable habitat. All sources of pipehorses exported from Australia are from bycatch - the most important fishery being the Queensland East Coast Otter Trawl Fishery which targets mostly prawns (Figure 5). The Spiny Pipehorse *Solegnathus spinosissimus* is caught as bycatch in the South East Trawl Fishery in Australia, while it is also caught as bycatch in New Zealand trawl fisheries. Sources of pipehorses in other countries are unknown.

EMMA CRONIN/ROD CONNOLLY

Figure 5.
Measuring pipehorses caught as bycatch in Queensland, Australia.

Figure 6 (inset).
Area of the tail of a Hardwick's Pipehorse showing cup-shaped egg scars. Such scars indicate that the males were reproductively active.

INSET PHOTOGRAPH: T.F. LAM/ PROJECT SEAHORSE

culties in sex identification of some individuals. The proportion of juveniles was calculated from the minimum size of brooding males given in Dawson (1985) and Connolly *et al.* (2001). The length of the head, trunk and tail was measured, together with the dry weight, and the presence or absence of egg scars on the tail was noted (Table 1). In common with other syngnathids, male pipehorses brood their eggs and thus egg scars indicate a recently reproductive active male (Figure 6).

Retail assistants or shop owners were asked (i) the origin of the pipehorses; (ii) their retail price; (iii) the number of pipehorses they would sell per day, week or month; and, (iv) whether the source, size or price of the pipehorses had changed over the past one, two or five years. Answers were generally given in the traditional unit system for medicinals in Hong Kong wherein ten *qian* constitutes a *tael* (37.5 g) and 16 *tael* make up a *catty* (600 g). These units have been converted to metric values in this paper. Prices are given in Hong Kong dollars (HKD) with an exchange rate of approximately USD1=HKD7.80 (January 2002).

In common with most work on wildlife trade, extrapolating from market observations to estimate the level of regional or national trade can be problematic owing to high data variance, unknown numbers of traders and retailers involved in the trade and year-to-year fluctuations. The total number of retailers in Hong Kong was estimated during this study at somewhere over 1000. Although the level of participation in the pipehorse trade over the whole retail sector in Hong Kong is unknown, the authors considered that their observed participation rate might be higher than average. Thus the total pipehorse trade in Hong Kong was estimated using a matrix assuming a range of retailer numbers (1000 and 2000) and used different levels of participation in the trade (10-20% and 40%) (Table 2) and minimum, mean and maximum volumes from retailer interviews. These data were compared with official data on pipehorses exported from Australia to Hong Kong (extracted from Environment Australia Wildlife Trade Database provided by K. Hammond *in litt.*, August 2001) and official data for all pipehorses and pipefishes imported into Hong Kong from Australia (extracted from Hong Kong Customs and Statistics Department Database and provided by B. Kwan *in litt.*, October 2001) (Table 3). As there was no recorded export of pipefishes from Australia to Hong Kong (Environment Australia Wildlife Trade Database), it was assumed that all declared imports into Hong Kong were pipehorses.

Year	AUSTRALIAN EXPORT DATA Quantity (kg dry weight)			HONG KONG IMPORT DATA Quantity	Declared value	Declared value/kg
	Duncker's Pipehorse *Solegnathus dunckeri*	**Hardwick's Pipehorse *Solegnathus hardwickii***	**Total**	**(kg dry weight)**	**(HKD million)**	**(HKD)**
1998	767	608	1375	1674	0.92	550
1999	16	111	117	883	1.39	1570
2000	91	121	212	732	1.10	1510
2001	9 shipments	10 shipments (weight of 75 kg given for one)	-	518	0.53	1020
2002	-	-	-	516	0.74	1440

Table 3. Data for pipehorses exported to Hong Kong from Australia[1] and pipefish and pipehorses imported into Hong Kong from Australia[2], 1998 to mid-2001.

- = no data available. Note that Australian records for 2001 only show the number of consignments and no data were available for 2002.
Sources: [1]Environment Australia Wildlife Trade Database; [2]Hong Kong Customs and Statistics Department Database

BOX 3. THE BIOLOGY OF PIPEHORSES

LITTLE is known about many aspects of the life history of pipehorses. This is probably because, in most parts of their range, they are found at substantial depths and in low numbers. Most specimens have been recorded at depths of more than 40 m, with many records in the 100-200 m depth range. One record of a Spiny Pipehorse from the coast of New South Wales records a capture depth of 640 m. This depth distribution precludes direct observation by divers and most information has had to be gained by indirect methods. The only species known to come into shallow water (2-10 m) is the Spiny Pipehorse which has been seen by divers in Tasmania and in Fiordland, New Zealand. Pipehorses appear to be associated with benthic habitat structure: they have been observed in New Zealand holding on to sponges with their prehensile tails, while fishers in south-eastern Australia report catching them in association with gorgonians, black corals, algae or sponges (Bowles, 2001; Bowles and Martin-Smith, unpublished data). In Queensland, Australia, catches of Hardwick's Pipehorse were associated with habitats at the edge of coral reefs (Connolly *et al.*, 2001). In common with other syngnathids, pipehorses show male parental care during egg incubation. During the breeding period the tail of mature males becomes brightly coloured, spongy and heavily vascularized. Mating has not been observed, but it is known that eggs are deposited on to the tail where they embed and form cup-shaped depressions (Figure 6). The male incubates the embryos until they hatch, but the duration of this brooding is not known. The breeding period is only known for Hardwick's Pipehorse from Queensland where Connolly *et al.* (2001) observed peak breeding in late winter to early spring (July-September); they estimated a brood size of approximately 120 (range 19-207) from the number of egg scars. Capture of a single pregnant male with late stage embryos suggested that the length of the offspring at birth is approximately 33 mm. Growth of Hardwick's Pipehorse was estimated to be rapid for the first year, with individuals reaching maturity in one year and attaining a maximum age of three to five years (Connolly *et al.*, 2001).

For other range nations which export both pipefishes and pipehorses, an indirect method had to be used. This was based on the assumption that Australia exports only pipehorses and that India exports only pipefish (as it is not a range nation for pipehorses) and the observation that pipehorses are considerably more valuable than pipefish (generally at least 10x). Thus, using the declared price from Australia and India for each year, combined data for other range nations could be partitioned between pipehorses and pipefishes.

RESULTS

Three species of pipehorse - Dunker's Pipehorse, Hardwick's Pipehorse and Spiny Pipehorse - were identified during this survey. The trader who was willing to answer detailed questions did not import his pipehorses directly, but bought them from a wholesaler. He cleaned and bleached the pipehorses and then sold them to retailers. He specifically mentioned that Duncker's Pipehorses and Hardwick's Pipehorses were sourced exclusively from Australia while Spiny Pipehorses came from New Zealand. Three different sizes of pipehorses, described only as small, medium and large, were sourced to meet customer demand. The total volume of all sizes traded by this individual was 0.75 kg in December 2001 and 9 kg during the whole of 2001. He reported this quantity had been stable since 1998 following a drop in demand during 1997. Similarly, he reported prices had been stable since 1998 following a drop in price during 1997. Large pipehorses sold for HKD5500/kg, medium pipehorses for HKD5000/kg and small pipehorses for HKD4330/kg. There had been no change in the availability over the three years 1999-2001.

Twenty-nine of 104 shops (28%) had pipehorses for sale when they were visited. A greater proportion of shops in Sheung Wan, Tseung Kwan O and the Mongkok region of Nathan Road stocked pipehorses than other areas of Hong Kong, confirming initial suppositions about the location of the trade (Figure 4). A total of 760 pipehorses (approximately 15 kg dry weight) were seen in all 29 shops, of which 271 were identified and measured. The vast majority were Hardwick's Pipehorses (91.5%) but a few Duncker's Pipehorses (4.1%) and Spiny Pipehorses (4.4%) were also seen.

Almost all pipehorses were adults, with >90% larger than minimum size at maturity (Table 1). Specimens of Hardwick's Pipehorse were significantly longer than Duncker's Pipehorses, and the latter were significantly longer than Spiny Pipehorses ($F_{2,253}$=12.6, p<0.001). Hardwick's Pipehorse (the only species for which enough data were available) had a normal size-frequency distribution (Shapiro-Wilk W=0.98, p=0.274) and a statistically equal sex ratio (chi-squared=3.3, p=0.125).

Sources of pipehorses were largely unknown or undeclared, with 20 of 29 retailers providing no answer to this question. Of those that did answer, two retailers (both selling Duncker's and Hardwick's Pipehorses) said that their pipehorses were from Australia, while

Year	Country	Total volume of pipefish and pipehorses (kg)	Declared value of pipefish and pipehorses (HKD000s)	Declared value/kg of pipefish and pipehorses	Estimated volume of pipehorses (kg)	
1998	Australia	1674	917	550		**1674**
	India	3240	192	59		**-**
	Malaysia	1398	92	66		**19**
	Philippines	2996	283	94		**216**
	Singapore	2980	222	75		**93**
					ALL	**2002**
1999	Australia	883	1387	1570		**883**
	Malaysia	3254	268	82		**65**
	Philippines	3298	285	86		**75**
	Singapore	1500	76	51		**0**
					ALL	**1023**
2000	Australia	732	1102	1510		**732**
	India	1830	82	45		**-**
	Malaysia	1390	137	99		**51**
	Philippines	3741	387	103		**150**
	Singapore	1240	68	55		**9**
	Thailand	3174	1369	431		**840**
					ALL	**1782**
2001	Australia	518	528	1020		**518**
	India	12173	418	34		**-**
	Malaysia	683	299	438		**280**
	Philippines	6169	606	98		**400**
	Singapore	45	8	178		**7**
	Thailand	1749	716	409		**666**
					ALL	**1871**
2002	Australia	516	744	1440		**516**
	Malaysia	360	49	136		**26**
	Philippines	9891	743	75		**287**
	Thailand	3587	721	201		**425**
					ALL	**1253**

Table 4. Estimated volumes of pipehorses imported into Hong Kong from other range nations during the period 1998-June 2001.
All imports from Australia were assumed to be pipehorses, all imports from India were assumed to be pipefish and those from other nations a mixture of both and are estimated as follows: in 2001, Australian pipehorses had a value of HKD1020/kg while Indian pipefishes were HKD34/kg. Malaysian exports of 683 kg had a value of HKD438/kg. The equation 1020*x + 34*(683-x) = 299 000 which gives a value of x=280 kg of pipehorses. For years when there were no imports from India, the mean of the values for the closest years was used.

five retailers (all selling only Hardwick's Pipehorse) variously said their source was South China Sea, South-east Asia, China or the Philippines. Two retailers selling only Spiny Pipehorses said that they were from the Philippines, which is not known to be a range nation for this species. These two retailers also mentioned that Spiny Pipehorses were considered to be 'false seadragons' and thus less favoured than other species.

Estimates of volumes traded were difficult to obtain, with 10 retailers saying that they kept no record and a further 10 saying trade was 'infrequent'. Of the remaining retailers, two were unwilling to reveal volumes while estimates from the other seven ranged from 0.6-11.7 kg/year (mean 6.63 kg/year ±1.46 SE). Pipehorses were expensive items compared with many other medicine ingredients, with a mean retail cost of HKD4350/kg ±209 SE and a range of HKD2670-HKD6670/kg. The authors' calculated estimates of total pipehorse volumes traded in Hong Kong ranged from 360-5280 kg/year with associated turnover of HKD1.8-23.0 million, depending on the assumptions used (Table 2).

Customs data were available from Hong Kong and Australia from 1998, when syngnathid exports were first recorded as a separate category. Reported exports of pipehorses from Australia to Hong Kong declined sharply from 1375 kg in 1998 to only 117 kg in 1999 and thereafter increased to 212 kg in 2000; Australian records for 2001 only show the number of consignments, while no data were available for 2002 (Table 3). Reported imports into Hong Kong from Australia dropped significantly over the reporting period - from 1674 kg in 1998 to 883 kg in 1999 to 732 kg in 2000 before stabilizing at about 520 kg in 2001 and 2002 (Table 3). Consequent with the decrease in recorded volumes traded in 1999 was a sharp increase in the declared price per kg - from HKD500 to over HKD1500 (Table 3).

As reported exports from Australia declined, the calculated contributions from other range nations increased in importance (Table 4). Inferred imports into Hong Kong from the Philippines were highly variable ranging from 60-400 kg per year, while those from Malaysia were generally low (<50 kg) except in 2001. From these calculated data, it would appear that Thailand became an important source of pipehorses from 2000 onwards, possibly supplying volumes greater than Australia in some years (Table 4).

Retailers had a general perception that pipehorse sizes and prices either had not changed significantly over the past three to five years or had fluctuated without a pattern (n=20 for size, n=19 for price). The majority that did report changes said that size had decreased (n=4) but that prices had remained stable (n=4), particularly after 1997 which was specifically mentioned by two traders. One retailer reported that the size of individuals had increased over the past five years.

Discussion and Conclusions

Pipehorses in Hong Kong are an example of a low-volume, high-value commodity in the TCM trade. Their high prices are a reflection of the perceived efficacy of pipehorses in TCM (Bensky and Gamble, 1993). This perception may lead to resistance if one wanted to change consumer demand or preference for pipehorses. Estimates of annual trade are an order of magnitude less than seahorses which are used in a similar medicinal manner, but prices are at least equivalent to those for the highest quality, large seahorses (Vincent, 1996; Project Seahorse, unpublished data).

During the course of this study, the retail trade appeared to be fairly diffuse with most retailers holding small numbers of pipehorses (<100 individuals), but retailers stocking pipehorses were found in all suburbs visited. Low reported turnover per retailer combined with wariness from pipehorse traders made it difficult to provide precise estimates of total volumes traded.

Australia appears to be an important source of pipehorses, from a consideration of range distributions (Figure 1), information from traders and retailers and export/import data (Table 3). However, it appears likely that Hardwick's Pipehorse - which constituted the majority of pipehorse exports from Australia - was also sourced from other range nations. Exports from Australia generally consist of approximately 40% Duncker's Pipehorse and 60% Hardwick's Pipehorse (Connolly *et al.*, 2001; Table 3), while sales in Hong Kong consisted of only 4% Duncker's Pipehorse and 90% Hardwick's Pipehorse. This suggests either (i) species misidentification in Hong Kong surveys; (ii) species misidentification in Australian export data; (iii) a loss of Duncker's Pipehorse on route to retail outlets; and/or, (iv) extra sources of Hardwick's Pipehorse outside Australia. This latter option is supported by evidence from some retailers who stated that the pipehorses they sold came from the South China Sea and there are reports of pipehorses in trade from the Philippines in 2000 (M. Pajaro pers. comm., 2002).

Using fairly conservative estimates of the total retail trade in Hong Kong (Table 2), it appears that all the Australian exports of pipehorses could be consumed in Hong Kong and still leave a shortfall. The contribution of Hardwick's Pipehorses by other range nations - Malaysia, the Philippines, Singapore and Thailand (all mentioned by retailers) - remains unknown. However, the approximate calculations given in Table 4 suggest that Malaysia and Thailand became important suppliers of pipehorses when supplies from Australia diminished in 2000 and 2001.

This study provides evidence of significant pipehorse exploitation for the TCM trade but it is not possible to evaluate the effects of the trade on pipehorse populations. There are few or no data available on the size of unexploited populations, catch-per-unit-effort for fished populations, levels of discarding or retention of pipehorses or even where they are caught outside Australian and New Zealand waters. Whilst estimates of imports into Hong Kong have fluctuated apparently without pattern (Table 4), imports from Australia decreased consistently from 1998 to 2001. This may reflect overexploitation, changes in fishing practices or behaviour of fishers. Similarly, estimated year-to-year changes from other source nations cannot be ascribed to particular causes owing to lack of data. Although juvenile pipehorses were not found in the Hong Kong trade surveys, it is possible that they were discarded or entered trade through other countries or in patent medicines. It will be necessary to verify the fishing practices of source fisheries to determine whether or not recruitment overfishing is occurring. However, only a small number of traders suggested that pipehorses had decreased in size over the past five years and many of the males measured had egg scars indicating that they were reproductively active and had released at least one brood before capture.

All three species of pipehorse for sale apparently reach the same maximum size in the wild (approximately 500 mm (Dawson, 1985)) so it is puzzling why Duncker's Pipehorse and Spiny Pipehorse specimens in retail outlets were smaller than Hardwick's Pipehorse. This could have been a sampling artefact associated with the small number of individuals measured or reflective of different selectivity (e.g. mesh sizes, areas fished) associated with different methods of capture.

Pipehorse exports from Australia are an encouraging example of using charismatic species to help highlight management issues related to bycatch. The Queensland East Coast Trawl Fishery has recently been assessed under guidelines for sustainable fisheries and pipehorses can be retained and exported from this fishery until 1 July 2005 (M. Tailby *in litt.*, July 2002). However, a number of significant conditions have been attached to this provision including logbook recording, introduction of an observer programme, measures for the reduction of bycatch and increased research on the distribution, abundance and biology of the affected species.

Recommendations

1. ***Increased engagement with TCM stakeholder groups by fisheries management agencies and conservation groups.*** More dialogue with TCM importers, wholesalers and retailers involved in the pipehorse trade is needed to foster exchange of information. Assessment of the true level of trade and any changes in volumes, prices and sources will only be obtained through close co-operation with these stakeholder groups. Results and trends in trade can be fed back using the same route, and the acceptance of management, policy or trade measures can be evaluated.

2. ***Improved reporting by genus or species from source countries.*** Evaluation of trade and consequent effects on populations of pipehorses are hampered at present for many countries by the aggregated level of reporting. Pipehorses need to be recorded separately to determine the impact of extractive use on their conservation status. Thailand appears to be a particularly important source nation for pipehorses and thus a priority for this level of reporting.


S.K. LEE/TRAFFIC

A market stall in Hong Kong specializing in traditional medicine ingredients. The box on the left contains pipehorses and pipefish.

3. ***Expansion of trade monitoring to other consumer centres.*** Although Hong Kong is an important centre for TCM, there are other locations which may have significant trade in these animals, in particular mainland China and Taiwan. If pipehorses are considered for listing under CITES, it is very important that levels of importation, wholesale and retail trade are determined for these centres.

4. ***Assessment of attitudes of TCM practitioners and consumers to pipehorses and acceptability of alternatives.*** There is almost no information on how pipehorses are perceived by TCM practitioners or consumers. For example, it is not known whether they are considered to be essential and irreplaceable within TCM. There may be a number of other medicinals, about which there are no conservation concerns, which could be used in the same manner as pipehorses.

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The sources of information upon which the cases below are based are cited at the end of each country section.

EUROPE

DENMARK

On 6 October 2002, Customs officials at Copenhagen Airport seized 103 Sperm Whale *Physeter catodon* (CITES I) teeth and three Walrus *Odobenus rosmarus* (CITES III) tusks from a Danish national travelling to Bangkok, Thailand. There was no accompanying documentation and the case was handed over to the police. The suspect stated that he had purchased the items in Greenland.

The country of origin of these teeth is not clear to the Greenlandic or Danish CITES authorities. Currently, CITES is implemented in Greenland via executive orders that govern the importation and export of specific species of wildlife and related products. According to Greenlandic legislation, it is unlawful to export Sperm Whale teeth and Walrus tusks without a CITES permit. The CITES Management Authority in Greenland has informed all handicraft shops in Greenland of the regulations applying to wildlife products, and information booklets aimed at tourists have been produced in several languages outlining the rules governing wildlife exports. New legislation specifically designed to apply the provisions of CITES in Greenland is currently in preparation. The case is under investigation.

T. Hjarsen, EcoAdvise, Copenhagen; Berlingske Tidende (Denmark), 7 October 2002; Ø. Slettermark, CITES Management Authority, Greenland; N.K. Nielsen, CITES Management Authority, Denmark; TRAFFIC Southeast Asia

MALTA

On 11 August 2003, Customs officials seized skins of some 700 protected birds, 23 mammals and three reptiles from two people returning from Cairo via Athens. The items, which were in four suitcases, were detected during a random luggage scan. Three men have been detained by police.

The birds, which had been shot, included skins of Black-shouldered Kite *Elanus axillaris/caeruleus* and Steppe Eagles *Aquila nipalensis* (both CITES II), Long-legged Buzzards *Buteo rufinus*, Little Green Bee-eaters *Merops orientalis,* pelicans and storks. From the condition of the plumage, the birds are thought to have been shot between March and May. The shooting of protected birds in Egypt by Maltese hunters has long been suspected: shooting holidays are reported to take place during winter months and the birds left in cold storage in Egypt and smuggled in the summer when the hunting season is closed. At this time the volume of work for Customs officials is heavier, and monitoring, it is perceived, is lower.

The Times of Malta, 13 August 2003: www.timesofmalta.com/core/article.php?id=133012

RUSSIA

During February and March 2003, operations directed at preventing the gathering and sale of rare and protected species of wild flowers were carried out in Moscow by the Environmental Protection Team of the Student Movement of Russia, which includes members of the Biology faculty of Moscow State University (MSU) who have specialist botanical training; two raids alone resulted in the seizure of some 75 000 snowdrop *Galanthus* (CITES II) plants. >

SWISS CUSTOMS ADMINISTRATION

Ivory figures, painted black to disguise the source material, were among consignments of ivory from Cameroon that were seized in Switzerland in early 2003.

> Trains arriving at two railway stations from Crimea and the Caucasus were searched for wild flower shipments. On 10 February, at Kazansky station, almost 800 bouquets with up to 50 snowdrop plants in each, were confiscated from one person. At Kursky station the following morning, two suspects were detained with 1000 bouquets each containing up to 35 snowdrops.

Snowdrops, among the first flowers to appear in February/March, are gathered in Crimea, the Caucasus and in southern Russia, leading to the trampling of vast areas of reserved forest. One third of all the plants collected are thrown away during sorting, transportation and sale. These seizures form just a part of the enforcement work taking place in Russia to stop the illegal trade in wild plants (see also pages 157-159).

Natalia Kurbatova, Student Movement of Russia, Biology faculty of Moscow State University

Sperm Whale *Physeter catodon* teeth and Walrus *Odobenus rosmarus* tusks were seized at Copenhagen Airport from a Danish national travelling to Thailand.

WWF-US

In an anti-poaching campaign that started on 17 May 2003, by mid-June police had already detained almost 1000 poachers and seized nearly 1000 kg of caviar and 43 000 kg of sturgeon and other fish. The largest single seizure of caviar - some 500 kg from Amur Sturgeon *Acipenser schrencki* - took place at a storage and canning plant, which had been disguised as a garage, in a village near the Russian Far Eastern city of Khabarovsk. A targeted sturgeon fishery is banned on the Russian bank of the Amur River, to which the Amur Sturgeon is endemic (*TRAFFIC Bulletin* 19(1):38). The case is under investigation.

The Vladivostock News (Russia), 24 June 2003: www.vlad.tribnet.com/news

SWITZERLAND

Between January and April 2003, Customs officers at Zurich Airport seized consignments of ivory that had arrived from Douala, Cameroon. Some of the ivory had been concealed inside clay sculptures and declared as terracotta/cowry shell sculptures. Four of these shipments - of six kg (one tusk), 11 kg (four tusks and one statue), 1.5 kg, and seven kg (three carved tusks and three figures) - had been destined for New York; one, bound for Barcelona, contained 3.3 kg of ivory jewellery; another consisting of 31.5 kg (eight tusks, five carved tusks, 28 figures, and jewellery) was to go to Madrid, and 300 g of ivory was destined for Brussels. A further 71.4 kg of ivory was seized on 6 May, bound for New York, and consisted of carved figures that had been painted black. Earlier this year, 800 g of ivory from Nairobi, destined for Moscow, were seized.

Authorities in the respective destination countries and the CITES Secretariat have been informed.

Swiss Customs Administration, April/May 2003

UK

In February 2003, Arqadia Ltd., one of the biggest firms in the UK picture framing industry, was fined GBP80 000 (USD127 000) after pleading guilty to illegally importing 700 cubic metres of picture frame mouldings constructed from Ramin *Gonystylus* spp. The goods, from Indonesia, had been seized by Customs officials at Felixstowe port and from the premises of Arqadia Ltd in Bedford, in March 2002. Samples of the wood were passed to the Royal Botanic Gardens, Kew, for identification, which confirmed that the majority of the samples were of Ramin.

The genus is listed by Indonesia in CITES Appendix III, which means that the export of Ramin or related products is banned without an export permit. When arrested and interviewed, staff at the company claimed to be unaware of the CITES restrictions on Ramin imports. However, documents found during the search of Arqadia's offices suggested that the company had actively colluded with their Indonesian suppliers to evade restrictions.

Customs officers are currently working with the Indonesian CITES Management Authority to help them prosecute the Indonesian supply company. The information, initially supplied to Customs by the Environmental Investigation Agency (EIA), was acted on by the Customs Wildlife and Endangered Species Officer in Felixstowe, the Customs National Investigation Services and the Heathrow CITES teams.

On 23 June 2003, at the Court of Appeal in London, bird smuggler Ray Humphrey had his gaol sentence reduced from 6.5 years to 5.5 years. Refusing to cut his sentence by any more, Mr Justice Gray said that Humphrey was a professional criminal who had shown utter disregard for the law (see *TRAFFIC Bulletin* 19(2):76).

HM Customs & Excise, National Investigation Services; http://209.68.34.145/eia/cgi/news/news.cgi?a=125&t=template.htm; Norfolk News (UK), 24 June 2003

AFRICA

KENYA

On 23 February 2003, game wardens of the Kenya Wildlife Service intercepted a jeep in the Lare Soro area of Marsabit district, near Kenya's border with Ethiopia, and seized 33 tusks of African Elephants *Loxodonta africana* (CITES I); five suspected poachers were arrested. It was not immediately clear where the suspects acquired the tusks or whether they had killed any elephants in Kenya.

http://abc.net.au/news/newsitems/s792768.htm, 25 February 25, 2003

SOUTH AFRICA

On 15 July 2003, a container of shells on route from Nacala, Mozambique, to Naples, Italy, was intercepted by port authorities in Durban, KwaZulu-Natal. Alarmed at the size of the shipment, the Port Anti-Narcotics Unit alerted KwaZulu-Natal Wildlife officials who seized the cargo for further investigation under South Africa's *Marine Living Resources Act*.

The shipment of almost 50 000 shells, weighing approximately 11 t comprised: 17 308 Spiny Murex *Chicoreus ramosus*; 15 450 Red Helmet Shells *Cypaecassis rufa*; 12 470 Pink-lipped Agate Snails *Achatina immaculata*; 1500 Common Spider Shells *Lambis lambis*; 830 Arthritic Spider Shells *Lambis chiragra arthritica* and 661 Frog Shells *Tutufa bubo*.

All of the ornamental species were without doubt collected alive - the fresh condition of the shells and the smell of the rotting remains of the animals inside the shells was clear evidence of this. They would have been collected, probably by subsistence gatherers, in the sheltered lagoons and reefs on the northern Mozambique coast. They were almost certainly destined for the ornamental shell trade.

While none of the species is listed in the CITES Appendices nor protected under Mozambican law, collection on this scale must be a matter of concern. Although the species involved may be common in pristine tropical habitats, there is no information available to indicate whether this level of harvesting of living molluscs is sustainable. Similarly, there is no information regarding the frequency with which such shipments occur. Subsequent investigation has shown that permits for shipping this cargo were issued, but that these originated from the Mozambican Ministry of Agriculture and concerned matters relating to animal and plant health. The National Directorate of Fisheries Administration in the Ministry of Fisheries was evidently not aware of the shipment. As the consignment did not contravene any law, it has been allowed to continue its journey to Italy. The Mozambican fisheries authorities are to investigate the case.

Dr D. Herbert, Natal Museum, Pietermaritzburg, South Africa

ASIA

EAST ASIA

CHINA

On 23 October 2002, at the court of the capital of Hainan Province, Liang Huijiang, Zheng Songchang, both of Guangdong Province, and Liang Yushen, a resident of Thailand, were sentenced to life imprisonment for the illegal trafficking of wild animals to the port of Sanya, Hainan, on 24 July 2001. The animals, which were seized, included 566 monitor lizards, 259 pythons, five pangolins *Manis* and 7563 snakes from Thailand (168 cobras, 2956 Indochinese Rat Snakes *Ptyas korros* and 4439 Oriental Rat Snakes *Ptyas mucosus*).

In early January 2003, police in 14 provinces and municipalities - including Beijing, Shanghai and Guangdong - confiscated more than 107 000 birds, of which 1223 were protected species, during a 10-day nationwide crackdown on illegal trade. Police raided more than 3370 bird markets, as well as 16 380 hotels and restaurants, and arrested 318 people (see also page 122).

In April 2003, the Shanghai No. 1 Intermediate People's Court sentenced one man to death for his part in the illegal trade in more than three tonnes of ivory seized last year. If the accused is of good behaviour in gaol for a period of two years, the sentence will be commuted to life imprisonment. Another man has been sentenced to life imprisonment and had all of his personal property confiscated. Customs officials in Shanghai arrested the two Chinese traders on 30 August 2002 in possession of the ivory, which was thought to have originated in the Democratic Republic of Congo and routed to Mombasa via Uganda.

On 11 April 2003, Guangdong forest police seized 85 Water Monitors *Varanus salvator* (CITES II) from a coach travelling from Hepu, Guangxi Province, to Guangzhou. The specimens, ranging from between 1.5 kg to 5 kg, were found in five boxes that had been covered by fish; three lizards were dead. The species is nationally protected.

Agence France Presse, 4 January 2003; CITES Secretariat; China Daily: www.chinadaily.com.cn, 28 October 2002; New China News Agency report, 11 April 2003; TRAFFIC East Asia/WWF China-China Programme

HONG KONG

During the last two weeks of January 2003, 25 seizures of orchids were carried out at Customs checkpoints (18 at the border with mainland China and seven at the Hong Kong-Macau and Hong Kong-China ferry terminals). Most of the orchids seized were of *Cymbidium* and *Phalaenopsis* species. The same number was made for the same period last year. Illegal orchid imports are commonly found among travellers returning from mainland China. Under the *Animals and Plants (Protection of Endangered Species) Ordinance*, trade in highly endangered wild orchids is prohibited. The importation, export or possession of other wild orchids, including their parts and derivatives, requires a licence, which must be obtained in advance. Artificially propagated orchids including their parts and derivatives also require a valid export permit issued by the exporting country.

Press release of Agriculture, Fisheries and Conservation Department, Hong Kong, 6 February 2003

SOUTH ASIA

INDIA

In November 2002, in a landmark judgement, two Nepalese labourers were imprisoned in Uttaranchal State, Dehradun, for three months and fined Rs.5000 (USD108) following their arrest in May 2002 for possession of one musk pod. This is the first case in India where a conviction has been ordered within six months from the date of the arrest.

On 12 February 2003, a raid conducted in the Matigara area yielded the skins of 20 Leopards *Panthera pardus* (CITES I) and 19 civets Viverridae (listed in Schedule II of India's *Wildlife (Protection) Act 1972*. This is reportedly the largest haul of wildlife products ever made in North Bengal.

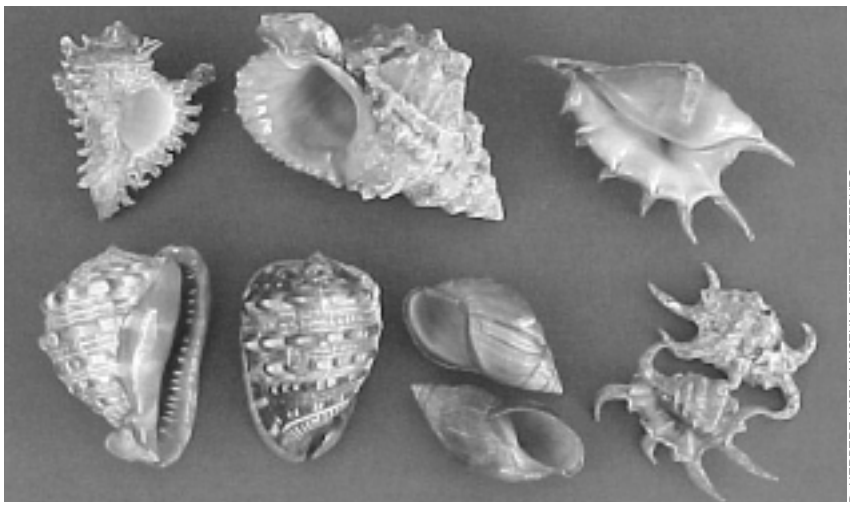
On 1 April 2003, a special police unit seized a consignment of skins of 15 Leopards *Panthera pardus* (CITES I) near Dharchula from people crossing Kali river along the border between Nepal and India. Upon being challenged, the suspects ran into Nepal but dropped the parcel of skins they were carrying.

On 13 May 2003, some 47 shahtoosh items (made from the wool of the Tibetan Antelope *Pantholops hodgsoni* (CITES I)) were seized in Delhi by the Central Bureau of Investigation of the Indian Government in a series of raids. These consisted of two kurtas (long shirt-like garment), 45 shawls, and one seven-metre length of shahtoosh fabric. One man was arrested.

On 7 April, wildlife officials of Delhi's government seized a consignment of 211 kg raw shahtoosh wool packed in 11 sacks. This quantity of wool is estimated to derive from nearly 3000 Tibetan Antelopes. It came by lorry from Haldwani town in Uttaranchal. Interrogation of the owner of the goods revealed that the wool had been transported to India from Nepal via the border town of Dharchula. Three people are in custody. A lawyer from the Wildlife Trust of India was present in court to oppose bail.

In Resolution Conf. 11.8 (Rev. CoP12), the Conference of the Parties to CITES recommended that all Parties and non-Parties, especially consumer and range States, adopt comprehensive legislation and enforcement controls as a matter of urgency, with the aim of eliminating commercial trade in Tibetan Antelope parts and derivatives, especially shahtoosh, in order to reduce demonstrably the illegal trade in products of this species. It also urges the processing countries of the products of Tibetan Antelope to continue their efforts to ban the processing of Tibetan Antelope wool.

On 29 July 2003, Customs officials at Chennai Airport, Tamil Nadu, acting on information received from the Deputy Directorate of Wildlife, Southern Region, seized about 980 kg of dried sea cucumbers from a flight bound for Singapore. The items had been packed in 32 cartons and declared as



D. HERBERT, NATAL MUSEUM, PIETERMARITZBURG.

The 50 000 shells seized in Durban, South Africa, were almost certainly destined for the ornamental shell trade. Weighing some 11 t, the shipment consisted of, from top left above, clockwise: Spiny Murex *Chicoreus ramosus*, Frog Shells *Tutufa bubo,* Common Spider Shells *Lambis lambis,* Arthritic Spider Shells *Lambis chiragra arthritica,* Pink-lipped Agate Snails *Achatina immaculata* (x 2) and Red Helmet Shells *Cypaecassis rufa* (x 2).

These species, with the exception of the agate snails, are all spectacular tropical marine species. The Red Helmet Shells would most likely be used to make cameo jewellery, a popular item in Italy. The possible use of the agate snails is not clear but it could be that they would be ground up and used as ingredients of specialized products, for example pottery glazes.

'dried rays and skin fish'. Pursuant to Notification No. 665(E) of 11 July 2001, sea cucumbers Holothuroidea are classified under Schedule I of India's *Wildlife Protection Act 1972*, which prohibits all trade in holothurians.

On 7 August 2003, at Chennai Airport, authorities of the Deputy Directorate of Wildlife, Southern Region, seized 900 Star Tortoises *Geochelone elegans* (CITES II) from the luggage of a passenger bound for Singapore. The man was taken into custody but later escaped. The tortoises have been released in Guindy National Park. With a maximum carapace length of about 35 cm, the Star Tortoise is popular in the pet trade.

CITES Management Authority, India; Bibhab Kumar Talukdar, Ph.D., Wildlife Crime Monitoring Center of AARANYAK; CITES Secretariat; Ashok Kumar, Wildlife Trust of India; The Hindu (India), 31 July/11 August 2003

NEPAL

On 4 April 2003, police seized skins of 109 Leopards *Panthera pardus* (CITES I) that had been concealed in sacks of pepper on a bus bound for Dhading at Halchowk in Swayambhu, Kathmandu. The owner of the sacks, who was arrested, claimed that in return for a remuneration, he had been asked by a Tibetan to transport the sacks to Tibet via Chhekemar, through Dhading district. The skins were handed over to the National Wildlife Preservation Department in Babarmahal.

In September 2003, at the district forest office in Bharatpur, Chitwan, Ram Bahadur Praja, Sukra Bahadur Praja and Prem Bahadur Praja were sentenced to 15 years in gaol for killing 17 rhinos; they were also fined Rs.100 000 (USD1337) each.

The Himalayan Times (Nepal), 4 April 2003: www.thehimalayantimes.com. www.nepalnews.com.

SOUTHEAST ASIA

INDONESIA

On 23 March 2003, two Czech citizens who entered Indonesia on tourist visas were detained by officers at South Bukit Barisan National Park, West Lampung, after they were found to have collected more than 300 insect species [sic] and their larva inside the park. In addition to the insects, authorities seized two nets, ether, cellulose, tissues, preservatives and tubes. The case is being investigated by the police.

Jakarta Post (Indonesia), 29 March 2003

MALAYSIA

On 17 January 2003, Wildlife and National Parks Department officials seized more than 220 kg of wild meat from a restaurant in Segamat, Johor, and arrested the owner. In addition to two bear paws, the meat was of mainland Serow *Naemorhedus sumatraensis*, Malayan Porcupine *Hystrix brachyura*, Wild Pig *Sus scrofa*, civet, monitor lizard, monkey and deer. The owner's licence to sell had expired in February; he had previously been fined for a similar offence. He was to be charged under Section 64(1) and Section 68 of the *Wildlife Protection Act 1972* with illegal possession of animals, which are fully protected under the Act, and with smuggling the specimens. Three pangolins *Manis* were seized from an adjacent restaurant.

The department has reportedly stepped up enforcement and is closing in on restaurants known to be serving wild animal dishes. Over the previous month, staff had detained nine people for illegally trading and serving dishes containing meat of protected animals.

On 26 June 2003, 207 Malayan Pangolins *Manis javanica* (CITES II) were to be released in the wild in Langkawi and Pahang following their seizure two days earlier in Jalan Batu by National Parks and Wildlife Protection Department officials. Some of the pangolins have been tagged with chips so that their development and adaptation can be studied.

One man was detained after the pangolins were found in 26 plastic baskets in a lorry. They had been taken from forests in Johor and are believed to have been trapped for a syndicate supplying the international black market for exotic animals. The meat, blood and scales of the pangolin are said to be delicacies and of medicinal value, while the body parts are used to make bags and decorative items. The species is protected under the *Wildlife Preservation Act 1972*. Anyone caught in possession of the animal without a permit faces a fine of RM3000 or two years in gaol, or both.

Following an investigation prompted by the CITES Secretariat, the Government of Malaysia announced in October 2002 that it would confiscate four young Gorillas *Gorilla gorilla* (CITES I) imported into the country earlier in the year. The investigation found that the Gorillas were not born in a Nigerian zoo as claimed, but had been captured in the wild, either in Nigeria or, more likely, in a neighbouring country. The commercial trade in all wild Gorillas is strictly forbidden under CITES.

The Gorillas were imported into Malaysia from Nigeria by Taiping Zoo on the basis of falsified documents. The CITES Secretariat took action after receiving information from several sources questioning the claim that the animals had been born in captivity. It has been firmly established that the Gorillas were traded illegally and in violation of the treaty.

In July 2003, Malaysian Environment Minister Law Hieng Ding announced that the Gorillas would be transferred to Pretoria Zoo in South Africa which, he stated, is best equipped to care for the animals.

K. LOCHEN/TRAFFIC

Cymbidium sp. (below): illegal orchid imports are commonly found among passengers returning to Hong Kong from mainland China.

On 24 July 2003, authorities in Kuala Lumpur seized 580 Star Tortoises *Geochelone elegans* (CITES II) from an Indian national. Sixty-five of the tortoises had died and the remainder were cared for by the National Parks and Wildlife Department before being transported back to Nehru Zoological Park, Hyderabad, Andhra Pradesh, via Chennai, Tamil Nadu, from where they had been smuggled. It is reported that the tortoises will eventually be rehabilitated in protected areas in Andhra Pradesh and their movements closely monitored by electronic tags.

In August 2003, police seized over 700 logs from illegally felled trees in the province of Papua and 533 logs in Semarang. Six Malaysians and two Indonesians were arrested. The logging had reportedly taken place in the forestry concession of PT Rimba Kayu Arthamas in Merdey district, Bintuni regency in Papua. Unauthorized logging is prohibited by *Forestry Law No 41/1999* but illegal logging is reported to have increased across the country owing to the inability or unwillingness of local administrations to enforce the law.

New Straits Times (Malaysia), 26 June 2003; Jakarta Post (Indonesia), 25 January/15 August 2003; CITES Secretariat, 11 October 2002; www.news.bbc.co.uk: 9 July 2003; The Hindu (India), 11 August 2003; http://hinduonnet.com; Islamic Republic News Agency, 8 July 2003

THAILAND

Thousands of logs and pieces of processed Teak *Tectona grandis* were seized in forests nationwide during a three-month crackdown in early 2003, during which the northern province of Phrae was found to be the most active in the illegal trade. Businessmen in Phrae were reportedly illegally purchasing logs from nearby Phayao and Lampang provinces, causing heavy deforestation along the border. Some areas of these provinces located within Mae Yom National Park have been declared wildlife refuges.

Bangkok Post (Thailand), 31 March 2003 cited in Community Forestry E-News No. 2003/5, 17 April 2003

VIETNAM

On 11 February 2003, Customs officials at Noi Bai International Airport, Hanoi, discovered more than 2.6 t of monitor lizards on board a flight from Malaysia. Although its final destination was thought to be China, the shipment was addressed to a trading company in Hanoi which has denied any knowledge of the order.

During late February/early March 2003, Customs officers at Noi Bai International Airport, Hanoi, seized two separate shipments containing a total of nearly four tonnes of iguanas and pangolins *Manis* (CITES II). The reptiles - which included 616 pangolins - had arrived on a cargo flight from Malaysia.

All living specimens were transferred to Hanoi's Wild Life Rescue Centre but most of the animals have subsequently perished following the poor condition they were in when they arrived.

The animals were apparently on their way to China where they were destined to be used in traditional medicines.

In March 2003, Customs officers seized a shipment containing 4889 kg of turtles at Noi Bai Airport, Hanoi, following their arrival from Kuala Lumpur; only 1800 softshelled turtles had been declared on the freight bill. In addition to softshells, however, the consignment was found to contain Giant Asian Pond Turtles *Heosemys grandis*, Yellow-headed Temple Turtles *Hieremys annandalii,* Black Marsh Turtles *Siebenrockiella crassicollis*, and Southeast Asian Box Turtles *Cuora amboinensis*. Most of the specimens have since died and were burned to prevent pollution and disease.

Agence France Presse, 18 February/13 March 2003; South China Morning Post (China), 15 March 2003; TRAFFIC Southeast Asia; www.trafficindo.org

OCEANIA

AUSTRALIA

In late December 2002, at Sydney Airport, Customs officials foiled an attempt to export illegally approximately 600 beetles and larvae. Two men bound for Bangkok were arrested. About two thirds of the specimens, which had been discovered in cereal and biscuit packets in the pair's luggage, were alive and were handed over for identification to the veterinary quarantine centre at Taronga Zoo, Sydney. The suspects, both Japanese nationals, had been visiting Lord Howe Island, a World Heritage Protection Area. They have been charged under the *Environment Protection and Biodiversity Conservation Act 1999*.

On 28 August 2003, a Uruguyan fishing vessel suspected of illegally catching Patagonian Toothfish *Dissostichus eleginoides* in Australian waters, was apprehended some 2000 nautical miles south-west of Cape Town after being pursued for 20 days by Australian, South African and British vessels.

The vessel was first seen fishing inside Australian waters on 8 August and fled at high speed after ignoring radio orders from the Australian authorities to stop. After a 4000-nautical-mile chase through difficult sea conditions, the vessel was boarded and detained. It was escorted, with its 40-member crew, to Fremantle, Australia, where it arrived on 3 October; the detainees face charges of illegal fishing.

A range of measures to address the problem of illegal, unreported and unregulated (IUU) fishing has been introduced by the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), including an automated satellite-linked vessel monitoring system (VMS) and a Catch Documentation Scheme (CDS). However, IUU fishing continues to jeopardize the management and conservation of Patagonian Toothfish, which is highly prized in restaurants in Japan and the USA, the principal consumer markets for this fish.

The episode clearly demonstrates the importance of international co-operation in tackling illegal fishing.

TRAFFIC Oceania press release, 28 August 2003; Australian Customs Service Minister media release, 31 December 2002; www.traffic.org; TRAFFIC press release, 28 August 2003

AMERICAS

MEXICO

On 12 October 2002, a group of seven fishermen were arrested after being caught in two small boats in a specially protected area of the Sea of Cortes, off Isla Estanque, south of Bahia de los Angeles. On their vessels police found recently caught - and cooked - sea cucumbers.

For Profepa, Mexico's environmental police, these arrests are something of a coup as the agency tries to crack down on illegal fishing in the Sea of Cortes. Poachers have been stopped in the past, but were usually released after posting bail. Earlier this year, however, reforms to Mexico's penal code increased the maximum penalties from six to nine years. The increase allowed judges to deny bail to serious offenders.

The men, all from the Sea of Cortes fishing community of Bahia Kino in the state of Sonora, have been in custody since their arrests. The charge of catching a protected species in a protected natural area is considered so serious that the men are not allowed to post bail.

The shipment is believed to have comprised specimens of *Isostichopus fuscus,* the species of sea cucumber most commonly caught in these waters. In 1994, it was listed by the Government of Mexico as an endangered species and harvesting was banned. Though its status has since been downgraded to protected, the ban remains in place.

Sea cucumbers are often cooked immediately after being caught to reduce the specimens' size for easier transportation.

San Diego Tribune (USA), 2002; TRAFFIC North America-Mexico

USA

On 31 January 2003, Mikhail Kovtun of Moscow was sentenced to 30 months' imprisonment for illegally importing 44 kg of osietra caviar (derived from the Russian Sturgeon *Acipenser gueldenstaedtii*) without the required permits; he was also ordered to be deported following his gaol term. Kovtun was arrested at Miami Airport in August 2001 with two other passengers who had tins and a bag of the roe hidden in their suitcases. Kovtun is reported to have organized the trio's journey from Moscow through Zurich to Miami. His two companions, also Russian citizens, pleaded guilty to smuggling charges and have already received gaol sentences of six and seven months, respectively.

Reuters, 3 February 2003; The Miami Herald (USA), 1 February 2003; TRAFFIC International

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On 30 July 2003, a federal grand jury in Orlando, Florida, indicted a Singaporean reptile trader on three counts for conspiracy, smuggling of protected reptiles and false labelling of imported animals following his arrest on 28 June at Orlando International Airport, on arrival from Singapore.

The indictment alleges that the suspect conspired with others to smuggle, in January 2003, a variety of protected animals from Singapore, including Star Tortoises *Geochelone elegans* (CITES II), Fly River Turtles *Carettochelys insculpta* and monitor lizards. The consignment, destined for Orlando but intercepted by inspectors in Memphis, Tennessee, had been labelled as containing magazines and book samples.

See also page 113 for information on sturgeon and paddlefish seizures.

US Fish & Wildlife Service news release, 5 August 2003; New Straits Times (Malaysia), 1 August 2003

Eco-labelling as a Conservation Tool for AMERICAN GINSENG

Christopher S. Robbins

North America's forests support botanical resources fundamental to the cultural fabric and financial well-being of rural households. Emblematic of the cultural and economic significance of forest botanicals is American Ginseng *Panax quinquefolius*, an herbaceous perennial inhabiting the understory of mid- to late-successional deciduous forests (forests at the middle-to-late-mature stage of growth) in eastern USA and southeastern Canada. Worth an estimated USD18 million to harvesters, wild American Ginseng is a valuable cash crop to local rural economies and a source of supplementary income to households during economic downturns. Most wild-dug American Ginseng roots supply domestic and international medicinal markets, the most significant of which are in East Asia. In 2001, 26 062 kg of wild ginseng roots were exported to Hong Kong, Singapore, Taiwan, China and South Korea, with 90% of these exports shipped to Hong Kong (Figure 1).

Before the onset of commercial exploitation in the USA in the 18th century, the species was (and remains) an important plant to Native Americans. Some 11 American Indian tribes harvested American Ginseng for as many as 30 different uses, ranging from a general tonic to a remedy for tuberculosis (Moerman, 1998). Even today, American Ginseng is recognized among medical researchers as having promising pharmacological properties that may inhibit cancer, regulate blood sugar in individuals with Type II diabetes, alleviate menopausal symptoms and boost body defences (Oliff, 2001; Duda *et al.*, 2001**;** Wang *et al*., 2001**).** In the early 1970s, commercial exports of wild American Ginseng roots reached levels believed to be putting wild populations at risk from unsustainable harvest. Owing to increased conservation concerns, governments opted to regulate and monitor trade in American Ginseng by listing the species in CITES Appendix II in 1975. The USA implements the CITES listing through a domestic management programme under which States and the federal government co-operate to ensure harvest for export is legal, biologically sustainable and closely monitored (Robbins, 1998). States participating in this programme submit ginseng harvest data to the US Fish and Wildlife Service (USFWS), which uses this information to assess the status of wild populations and to determine whether approval should be granted to States to export wild-dug ginseng roots. As of mid-2002**,** 19 States had been given authorization by the USFWS to export wild ginseng collected during the 2002 harvest season (August through December) based on biological evidence that harvesting would not affect the status of natural ginseng populations in those States. Only plants five years or older may be exported from approved States, as younger plants are not mature enough to produce seeds to replenish the population.

Ginseng's cultural legacy: one community's experience

American Ginseng is the principal focus of TRAFFIC North America's work on non-timber forest products (NTFPs), a group of forest commodities of economic and/or cultural importance harvested for uses other than wood. During the last several years, TRAFFIC has worked closely with industry and the US Government to refine management strategies for American Ginseng, recommending ways to improve the species' conservation in the USA. In 2001, TRAFFIC launched an initiative to evaluate the conservation merits of an eco-labelling programme for wild American Ginseng, focusing on western North Carolina (Graham County) as the site for a pilot project. Out of 19 States reporting harvest in 2001, North Carolina was the fourth largest producer of American Ginseng that year, producing 3079 kg of wild ginseng root (Table 1).

Eco-labels are meant to convey ecological sustainability of a product to those consumers who base their purchasing decisions in part on the environmental impacts of a product or company. Wild ginseng harvested in an ecologically sustainable manner and independently certified or labelled as such would give consumers such information and companies selling certified roots a possible competitive advantage in the marketplace. Ginseng harvesters and vendors may find the voluntary, market-based nature of eco-labelling appealing if the commercial advantages are shown to outweigh its costs. Under an eco-labelling programme, stipulations relating to the age of the plants at harvest and export will be equal to or greater than those already required by the State or the federal government. Harvest would be limited to mature ginseng plants that have produced enough seed to offset their removal from the population, leaving younger plants to reach seed-bearing age. The enlarged roots of mature ginseng plants fetch higher prices in Chinese markets and may reward sellers with higher profits. Restricting the harvest of wild ginseng to mature plants under an eco-labelling scheme might complement rules imposed by the federal government which currently limits ginseng exports to plants five years or older.

While the concept of an eco-labelled ginseng product must be embraced by vendors and consumers to survive in the marketplace, an eco-labelling programme cannot succeed without the participation of rural ginseng diggers. Seeking the participation of diggers first requires an understanding of the historical, social and economic concerns and complexities surrounding local perceptions towards land ownership and forest resource use in southern Appalachia. Looking at forest resource use through a geocultural lens is intended to expose potential conflict and opportunities for working in a co-operative fashion with local stakeholders such as harvesters. To this end, TRAFFIC North America commissioned Yellow Creek Botanical Institute in Robbinsville, North Carolina, to engage residents of Graham County in a dialogue to gain insight into their views

towards management, harvest patterns and economics of NTFPs, including American Ginseng. Working closely with TRAFFIC staff, Yellow Creek carried out a series of interviews with 16 residents of Graham County believed to be knowledgeable about NTFP harvest and trade in the region. Yellow Creek set out to document the demographics, opinions and depth of knowledge of diggers concerning the status of NTFP resources. Residents were also asked for input on what measures they believe are necessary to protect NTFPs from unsustainable harvest.

By historical standards, NTFPs appear to have lost some of their significance among Graham County residents as a source of income or raw materials for use in the home. The main reason offered by respondents for lower interest in NTFPs is the labour-intensive, time-consuming nature of extracting botanical species of commercial interest from the forest. Increasing scarcity and inaccessibility of forest resources to harvesters combined with weak prices for many medicinals owing to lower market demand may dampen the desirability of NTFPs among residents (Cozzo, 1999). Instead, NTFP collection is usually an opportunistic activity to pay for emergency purchases or luxury items such as stereo systems or television sets, and is carried out in conjunction with other forms of income generation such as logging or construction. NTFP harvest levels are also a function of seasonal changes in employment, resource availability or market forces. In addition, land tenure contributes to the economic stability and social structure of residents by anchoring their historical and family ties to Graham County. Most individuals interviewed own at least one acre of land transferred to them by deed by a relative - typically their parents - but avoid larger parcels of two to five acres or more owing to increasing property taxes. Small private land holdings also serve as reservoirs for ginseng transplanted from the wild as landowners attempt to maximize profits by waiting for ginseng prices to increase before selling wild roots. Moreover, transplanting wild ginseng plants to private property removes the risk of another digger harvesting the plants from the wild.

Some of the Graham County residents interviewed who derive most or all of their income from NTFP sales indicated that American Ginseng and log moss (*Thuidium delicatium*, *Hypnum curvifolium* and *H. impunens*) are the only NTFPs of commercial value that they continue to harvest with any regularity. Even so, the price of these products almost always dictates the amount of time invested in collecting either or both. For instance, one respondent harvested in excess of 19 kg of wild ginseng roots in 2000 when a kg fetched USD1100 but did not sell any wild roots in 2001 when prices fell appreciably. While profitability is a strong motive for collecting NTFPs, tradition and recreation are also cited by Graham County residents as reasons for gathering the plant. Local residents who learned to collect ginseng in their youth on turkey or squirrel hunting trips have carried on what is called 'a family or poor man's sport", even taking a full month off from their regular job in the autumn to collect ginseng. In addition, many native species of forest plants are gathered as edibles or medicinals for personal consumption or used for ceremonial purposes, as is the case with local members of the Native American tribe, the Cherokee.

Graham County residents and other individuals in western North Carolina close to the NTFP trade say the ethic of harvesting NTFPs has changed due in part to diversification of the region's economy in the decades following World War II. As the national economy began to shift workers away from traditional land-based jobs in agriculture and forest products to the manufacturing sector in cities, rural residents had fewer opportunities to spend time in the woods to teach their children about plant collecting and conservation. Symptomatic of this trend is the disappearance of NTFP harvest practices that promote sustainability and the emergence of harvesters who collect plants for cash with little knowledge of or regard for conservation practices (Cozzo, 1999).

Graham County residents were asked about the effectiveness and fairness of the regulatory procedures for harvesting NTFPS, including ginseng, and much of the feedback was negative. Most of the residents interviewed believe that the permit system administered by the US Forest Service is expensive, inconvenient or biased against local NTFP harvesters. As one example of local sentiment, residents accuse the Forest Service of misusing revenue generated from the sale of harvest permits by not reinvesting in ginseng seeding or restoration. In another example, respondents expressed frustration with unannounced or frequent changes in government harvest policies or regulations that they believe are not adequately communicated to harvesters. Some of these regulatory changes are unpopular among harvesters because they limit the duration or level of harvest and therefore erode profit margins, possibly contributing to higher unauthorized harvest. Indeed, the Forest Service has reason to believe that the actual amount of wild ginseng collected in national forests exceeds the amount that may be legally collected under each harvest permit (USFWS, 2002). Harvesters are apparently required to disclose on their permits the amount of ginseng collected on US Forest Service land, and if the amount of ginseng collected is marginally higher than the amount allowed under permit, they could be cited and fined by a forest ranger. The difficulty of harvesting precisely the amount allowed under each permit and the Forest Service's obligation to enforce harvest rules for a valuable public resource illuminate the contrasting perspectives of harvesters and government land use officials.

Underpinning the adversarial views of local residents may be a legacy of 20th century government land acquisitions in southern Appalachia that displaced local families whose relatives and descendants still perceive government land management policies as exclusionary. Thus, past government actions resulting in the displacement of local families from their land likely reinforce

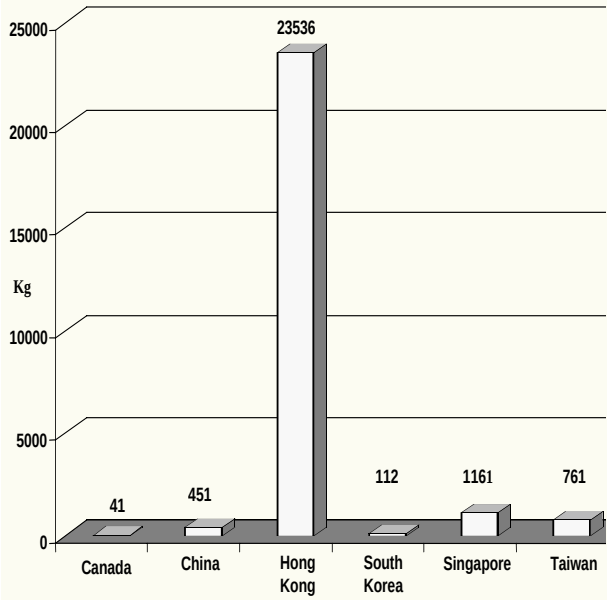

Figure 1. US exports of American Ginseng (kg), 2001.

Source: US Fish and Wildlife Service

State	kg
Kentucky	10326
Tennessee	3963
Indiana	3197
North Carolina	3079
West Virginia	2454
Virginia	1733
Ohio	1704
Illinois	1510
Wisconsin	1130
Missouri	727
Pennsylvania	657
Minnesota	591
Arkansas	420
Maryland	410
Alabama	396
Iowa	355
New York	342
Georgia	320
Vermont	54

Table 1. Reported harvest of wild American Ginseng roots in 2001.

Source: US Fish and Wildlife Service

Graham County residents' concerns about access to NTFPs (e.g. ginseng) that they consider fundamental to their livelihoods, traditions and rights. Even though local residents interviewed by Yellow Creek question NTFP management strategies and objectives of the Forest Service, they acknowledge that ginseng overharvest is a widespread problem requiring attention.

Taking Steps Towards Sustainable Wild-Collection

Reconciling the conservation needs of NTFPs in the face of mounting human pressures, including exploitation, with strong local biases against the appearance of government or external interference, complicates NTFP management on public lands. In addition, Graham County residents and harvesters are sceptical of financial schemes whose benefits are unclear, as previous efforts to promote economic diversification and sustainable forestry in the region have not met the expectations of rural residents. Based on the observations and opinions of local residents interviewed, establishing an eco-labelling programme for ginseng that is designed to improve the standard of living of harvesters while conserving wild ginseng populations for future users is possible if several steps are taken to allay suspicions among local residents. These steps are by no means exhaustive but represent a general course of action to increase residents' receptiveness.

- First, cultivate trust among local residents and harvesters by explaining the intended benefits of eco-labelling and warning in advance of likely setbacks and possible failure. Some residents believe that eco-labelling may benefit a few at the expense of others by giving certified harvesters a competitive advantage over uncertified gatherers. If residents understand that certification is voluntary and open to individuals willing to follow harvest protocols developed with their input, opposition may be tempered.

- Second, ensure local NTFP gatherers have complete access to the decision-making process regarding eco-labelling. Forest management is more sustainable and successful under the direction of local stakeholders who realize that their livelihoods depend on the long-term vitality and health of forest resources (Emery, 1998; Nabhan, 1997). Botanical dealers may be appropriate vehicles for the exchange of information and dialogue between local harvesters and eco-labelling proponents as the former may be more comfortable interacting with local dealers with whom they conduct business.

- Third, request local, longstanding professional harvesters to share their ideas and experience in sustainable harvest practices, which should be worked into harvester guidelines produced for a ginseng eco-labelling programme. As older, traditional harvesters who possess intimate knowledge of local

ecology and forest resources are replaced by a younger generation, conservation practices may not be transferred. Eco-labelling could be an educational as much as an economic opportunity by facilitating the transfer of responsible harvest techniques from the older experts to younger novices or new arrivals to the region.

The educational, social and logistical framework for ginseng eco-labelling, or some form of harvester certification, may be achieved more effectively through a harvester co-operative created with private foundation funds. Worker co-operatives can have inherent economic advantages such as a greater ability to leverage price premiums by controlling a higher percentage of product and serving as a source of current market and price information to members. A NTFP harvester co-operative may be able to integrate eco-labelling into its operation by purchasing ginseng of a certain quality or age from harvesters who have been accredited by the co-operative or an independent organization specializing in sustainable botanicals management. Established or emerging NTFP harvester co-operatives in Northern California and the Olympic Peninsula, in north-west USA, based on ecological sustainability and social equity, are potential models for Graham County.

Regardless of the shape or form of ginseng eco-labelling, much work remains ahead to address the concerns of resource users along the value chain. In addition, the impacts of eco-labelling should be considered within the cultural context of the Cherokee nation and the regulatory requirements of the US Forest Service, USFWS and the State Government of North Carolina. The Eastern Band of the Cherokee is increasingly reticent about the commercial collection of plant species on tribal lands, and eco-labelling may or may not be compatible with their traditions. About 70% of the land in Graham County is within the Nantahala National Forest where the harvest of wild ginseng is regulated by the Forest Service. As the largest landowner in the County, the Forest Service controls public access to much of the resource base and should therefore be consulted to ensure eco-labelling is implemented without undermining the agency's own conservation efforts for the species. Similarly, the USFWS, which implements the CITES Appendix II-listing for American Ginseng in co-operation with States (e.g. North Carolina), should be included in discussions to determine if components of an eco-labelling programme might assist the government with fulfilling its obligations under CITES.

TRAFFIC North America will continue to work with these stakeholders to determine whether eco-labelling can achieve the twin goals of conserving American Ginseng in the wild while benefiting harvesters, dealers and vendors in the marketplace. TRAFFIC welcomes input from anyone willing to provide feedback or an opinion on the use of eco-labelling as a market-based tool for conserving wild non-timber forest products.

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Portions of this paper focusing on the profiles, practices and perceptions of ginseng harvesters are based on the results of a survey commissioned by TRAFFIC North America and undertaken by Shannon E. McBride of the University of Georgia, Department of Anthropology for Yellow Creek Botanical Institute.

STEMMING RUSSIA'S WILD FLOWER TRADE

Mikhail Kreindlin

THOUSANDS OF PLANTS, INCLUDING SNOWDROPS *GALANTHUS* AND CYCLAMEN *CYCLAMEN* WERE SEIZED DURING RAIDS ON RAILWAY STATIONS IN MOSCOW EARLIER THIS YEAR. THE PLANTS HAD BEEN WILD-COLLECTED IN CRIMEA AND THE CAUCASUS

PHOTOGRAPHS: SNOWDROPS *GALANTHUS* AND CYCLAMEN *CYCLAMEN* (K. LOCHEN/TRAFFIC)

Since the early 19th century, certain wild plants in the Crimea, Caucasus, western Ukraine and southern Russia, have been declining in number. These plants include snowdrops *Galanthus* spp. and cyclamen *Cyclamen* spp. that grow primarily in broad-leaved forests. The 1820s saw the beginning of active industrial logging that resulted in the complete destruction of a large part of these forests during the course of the 20th century. Habitats of these plants shrank notably, and their northern borders shifted to the south, with plant populations becoming fragmented and restricted to mountains and foothills. According to scientific research, one of the main causes for the fall in snowdrops, cyclamen and other wild ornamental plants has been the mass collection for sale. Large-scale collection of flowering plants results in underdeveloped bulbs being trampled and destroyed and has led to the disappearance of whole populations of wild plants, with some species now close to extinction. An example is the Kuznetsov Cyclamen *Cyclamen kuznetsovii* which was formerly widespread throughout the Crimea and is now restricted to a single mountain in the centre of the Crimea.

It seems that the only way to preserve these plants in their natural environment is by imposing restrictions on their collection. This objective has become the major focus of an operation, code-named Operation Pervotsvety, set up by the Environmental Protection Team of the Student Movement of Russia which includes members of the Biology faculty of Moscow State University who have specialized botanical training. Many of the plants that this operation strives to protect are included in the Red Data Books of the Russian Federation, Ukraine and the Caucasus Republics; all snowdrop and cyclamen species are listed in CITES Appendix II.

The work of Operation Pervotsvety comprises two principal methodologies. The first of these involves working with the media, distributing messages via advertising and leaflets, and visiting schools, to highlight the impact of the trade on wild plant populations and discourage such activities. The trade in endangered plants in Moscow has received a lot of press, radio and television coverage. The second method employed to control this trade is by direct intervention of collection, importation and sale of these plants, with the main focus of the operation on Moscow.

Monitoring the trade

In 1994, the Government of the Russian Federation signed a resolution describing measures aimed at implementing provisions of CITES national wildlife trade law. However, it was three years before such measures were put into effect, following the establishment of the Environmental Police; even then, such work was limited to assisting the Student Environmental Protection Team while the service developed. Despite such limitations, however, raids on several trains to the Crimea resulted in the confiscation of plants consisting of some 10 000 bunches of wild flowers. This period saw the illegal trafficking of plants for sale in Moscow at its peak. This was probably caused by the huge disparity in the exchange rates in Russia and Ukraine, as well as a deteriorating economy, with growing unemployment and a decline in standards of living in the regions where people collect plants for sale. The main source of the plants was the Crimea, while political unrest in Abkhazia, Georgia and Azerbaijan resulted in almost a complete halt in the movement of plants from the Caucasus to Russia. However, demand for these plants in Moscow grew because prices for indoor plants had increased.

By March 1997, trade in endangered species was becoming more organized and integrated into other spheres of trade. Wild flowers would be sent in bulk to wholesale markets from where smaller quantities would be despatched to street markets; by this time, it became more difficult for inspectors (members of the Student Environmental Protection Team) to penetrate the core of the wholesale trade; moreover, most traders had the "protection" of criminal groups and corrupt law enforcement agencies.

Having considered all these factors, in 1998 the monitoring of this illegal trade was organized in a completely different manner, with a shift in focus to the trafficking of plants by rail. Such work was mostly undertaken by the Environmental Police who by this time were better equipped to deal with such offences than previously. The result was that in 1998, three times more rare flowers than in previous years were confiscated - in most cases these consisted of wholesale shipments. This increased pressure marked the end of open sales of endangered species in Moscow and the years that followed saw a drop in the number of plants imported from the Crimea.

In 1999, the Moscow City Duma (Parliament) passed the *Law of the City of Moscow On Regulation of Use of Rare and Endangered Wild Animal and Plant Species in the City of Moscow* which strengthened the legal basis for penalizing illegal trade by increasing fines and vesting responsibility for monitoring such activities in environmental protection and law enforcement bodies. The following year, the local police department was carrying out raids at Moscow's Kazan railway station, where previously such work had been carried out at Kursk railway station only. This closed off another channel for the illegal importation of plants to Rizhsky market - one of the primary destinations for wild flowers - and other markets in Moscow, including the importation of cyclamen *Cyclamen coum*, for which trade was previously uncontrolled, and other species listed in Category I of the Red Data Book of the Russian Federation.

However, volumes of illegal trade in endangered species in Moscow rose again following the dissolution of the State Environmental Protection Committee and the Environmental Police. In May 2000, environmental protection agencies were united with the Ministry of Natural Resources. This resulted in a weakening of State environmental control because the officials responsible for resource use were also in charge of controlling it. Furthermore, the Moscow City Environmental Protection Committee was dissolved and replaced by the Environmental Protection Department of the Moscow City Government whose authority and powers in 2000 were still undefined. For this reason, it was decided that enforcement efforts should focus directly on Russian Customs checkpoints. Initially, such efforts were directed at the Russian-Ukrainian frontier, in co-operation with the Belgorod Customs Department and the Russian-Abkhazian frontier in Sochi, in the Krasnodar Region. This work brought encouraging results and the influx of illegal plant species from Abkhazia almost stopped. However, judging from the number of subsequent confiscations of plants from other regions, it became apparent that Customs officials in Russia and neighbouring States did not have sufficient resources to control the traffic of rare plants at the border.

Simultaneous to the work undertaken in Moscow and Sochi by Operation Pervotsvety, other Environmental Protection Team inspectors observed trafficking of plants in the absence of any controls whatsoever; they learned that the importation of illegal plants into Moscow, in particular from the Crimea, had grown significantly over a period of just one year.

In direct response, on 1 March 2001, a full-scale operation was launched to stop the illegal importation and trade in wildlife in Moscow. Since the Environmental Police department was no longer functioning at this time, the Student Environmental Protection Team had to sign special agreements with the transport police at Kursk and Kazan railway stations to operate there. Their monitoring activities resulted in the confiscation, between 1 to 8 March, of plants comprising 12 000 bunches of flowers in Moscow. Most had been brought into the city by train. In 1999-2000, train conductors preferred to stay away from such practices for fear of disciplinary action. In 2001 several train conductors were arrested for their involvement in such activity and it is hoped that this particular practice will once again cease.

In early 2001, large numbers of Kuznetsov Cyclamen *Cyclamen kuznetsovii* - one of the rarest plants in Russia and subject to special protection and conservation measures - were being imported for the first time, demonstrating a growing weakness in the control over collection of flowers in the Crimea.

WITH ENVIRONMENTAL PROTECTION ACTIVITIES IN RUSSIA STILL VESTED MAINLY IN NGOS, WHOSE CAPABILITIES AND RESOURCES ARE LIMITED, AND WITH THE TRAFFICKING OF WILD PLANTS BECOMING MORE ORGANIZED AND INFILTRATED BY CRIME, THE EFFICIENCY OF ENVIRONMENTAL PROTECTION MEASURES IN RUSSIA WILL SIGNIFICANTLY DECREASE.

CYCLAMEN LEAVES K. LOCHEN/TRAFFIC

In 2002, the Student Environmental Protection Team worked at the Ukrainian and Abkhazian borders and in Moscow, targeting illegal trade and places where wholesale trade in rare plant species was taking place. By this time the Environmental Police had been re-established, greatly assisting such operations. All trains going to and arriving from the Crimea and Caucasus were checked and 80 000 bunches of rare or endangered plants (comprising about 400 000 flowers) were seized in Moscow alone. Most of these plants had come from the Ukraine. Further, the following seizures were made at the Abkhazian border: 11 120 specimens of Colchis Bur Grass *Ruskus colchicus* (listed in Category I in Russia's Red Data Book); 5883 Caucasus Bear's Foot *Erythronium caucasikum* plants; 4180 cyclamens *Cyclamen coum*; 2000 Voronov Snowdrops *Galanthus woronwii*; and, 448 specimens of Colchis Box *Buxus colchica*. Efficient border controls almost stopped the movement of these plants into Russia.

Efforts to stop the illegal traffic of rare plants to Moscow received support from the State in 2003 for the first time. Operations to control these illegal activities were approved by the Head of the Public Safety Police of the city of Moscow. This saw the beginning of large-scale involvement of law enforcement personnel and a significant decrease in the number of plants being transported into Russia: officials seized flower bunches containing thousands of specimens of rare and endangered plant species, including 7500 branches of Colchis Bur Grass, cyclamen (all species of which are classed as Endangered in Russia's Red Data Book (RDB) and snowdrops (all species of which are protected under Article 60 of Russia's *Environmental Protection Law* and some species classed as Rare in Russia's RDB (see page 149)).

There may be several reasons for the decline in confiscations of illegal plants, the most obvious being a decline in the volumes traded. It is apparent that the efficient job undertaken by the environmental agencies during 2002 forced many traders to switch to other methods to make a living. Moreover, the last couple of weeks in February in the Crimea had been very cold, resulting in smaller "crops" of snowdrops. The work of the group in the Caucasus placed obstacles in the way of trafficking rare or endangered plants from Abkhazia and the Black Sea coast of the Caucasus. Another reason for the decrease could be that traffickers found new ways of bringing plants to Moscow - by car, aeroplane, commuter train and long-distance trains.

Considering all of the above, it is clear that provided there is efficient control over the movement and trade in rare and endangered plant species, it is possible to achieve a significant decrease in the volumes of commercial harvesting of these plants. However this cannot resolve the issue completely as traffickers will look for other ways to smuggle plants to Moscow. Besides, despite the high level of organization into the conservation of rare plants in certain regions like Moscow and Sochi, in general, this issue receives very little attention at government level in Russia or the Ukraine. With environmental protection activities still vested mainly in non-governmental organizations, whose capabilities and resources are quite limited, and with the illegal trade in wild plants becoming more organized and infiltrated by crime, the efficiency of environmental protection measures will significantly decrease. In this respect, the Student Environment Protection Team believes that the following steps should urgently be taken:

- develop governmental programmes aimed at protecting habitats; stop illegal harvesting, trafficking and trade in rare and endangered plant and animal species, focusing initially on species listed in the Red Data Books of the Russian Federation, Ukraine and the Caucasus Republics, and in the CITES Appendices.

- facilitate environmental protection activities (inspection controls and education) in places where rare and endangered species grow, including in the Ukraine, the Caucasus States and southern provinces of the Russian Federation.

- reduce the commercial demand for wild plants by replacing wild specimens on the market with cultivated plants.

- undertake more educational activities aimed at discouraging the trade in regions where demand for wild plants is high.

- introduce amendments to the Russian Federation legislation to ensure tougher punishment (including bringing offenders to court) for the collection, trafficking and trade in CITES species.

- continue scientific assessment into the impact of mass collection of plants on their populations - work that has already begun and is being maintained by the Environmental Protection Team of the Caucasus Nature Reserve and Sochi National Park.

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