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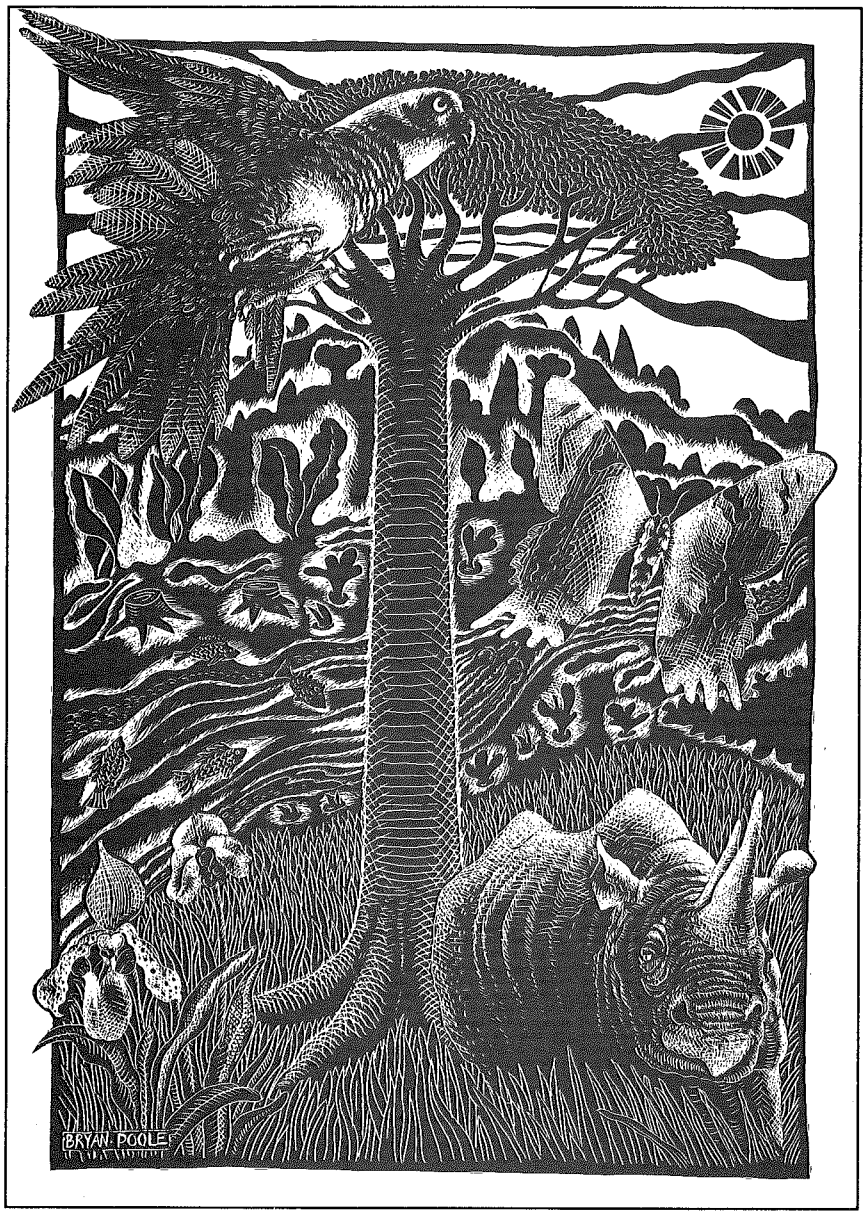
TRAFFIC

BULLETIN



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

TRAFFIC BULLETIN

TRAFFIC Bulletin is a quarterly publication of the TRAFFIC Network which is produced, and circulated free of charge, thanks to generous funding from WWF - the World Wide Fund for Nature. The *TRAFFIC Bulletin* publishes recent information and original papers on the subject of trade in and utilisation of animals and plants. It is concerned with the wise use of natural resources and supports the principles of the World Conservation Strategy. Papers submitted will be independently refereed as necessary.

Editors
Kim Lochen
Jørgen Thomsen

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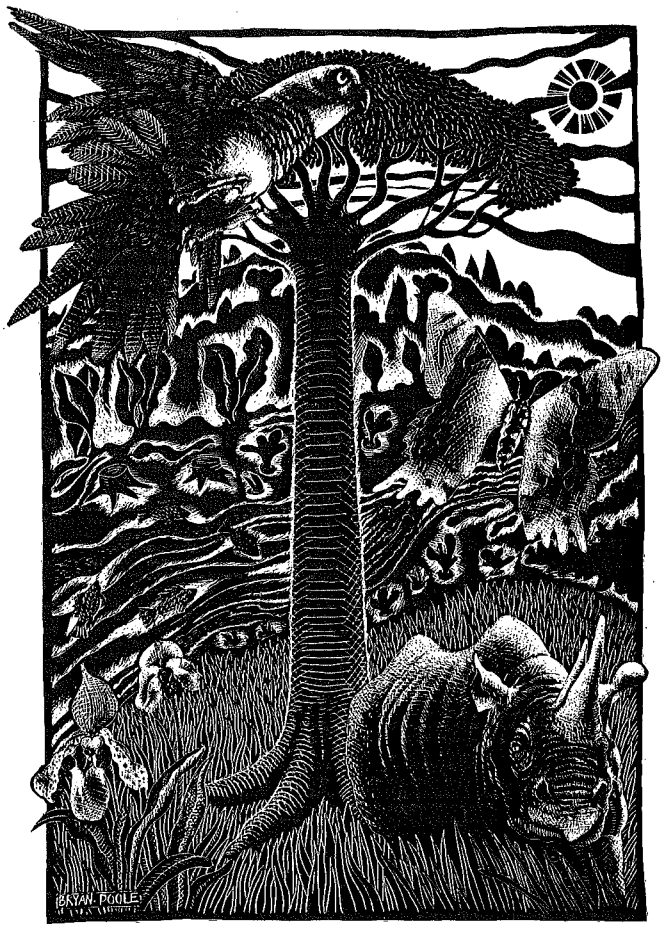

Cover illustration by Bryan Poole

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Namibia, Bulgaria and Mexico in CITES

Namibia, Bulgaria and Mexico acceded to CITES on 18 December 1990, 16 January and 2 July 1991. These accessions are effective as of 18 March, 16 April and 30 September respectively, and bring the total number of Parties to 111.

CITES Secretariat

Ivory Trade Agreement

On 20 June 1991, in Malawi, five member countries of the Southern African Development Co-operation Council (SADCC) signed an agreement to establish the Southern African Centre for Ivory Marketing (SACIM). The Agreement between Botswana, Malawi, Namibia, Zambia and Zimbabwe outlines the legal framework under which these countries will market their elephant ivory through a single centre.

Malawi's Acting Minister for Commerce and Industry, Hon. D. Magang, on the occasion of the signing of the Agreement, stated that alternative options were needed to conserve the African Elephant *Loxodonta africana* in the face of growing evidence that the international trade ban was driving the illegal traffic in ivory further underground.

Given the controversial nature of the Agreement, comments on the document would be sought from the CITES Secretariat and other relevant governments and institutions. No external trading in ivory will commence until such time as the five member states are satisfied that any consultation process has been finalised.

The Minister stressed that the member nations were committed to defeating the illegal trade in ivory and that the SACIM Agreement was seen as an important instrument for the conservation of the elephant populations that continue to thrive in the southern African region.

SADCC Press Release, 20 June 1991

South Africa Requests Elephant Downlisting

At the seventh meeting of the Conference of the Parties to CITES in October 1989, South Africa, along with six other nations, entered a reservation on the decision to list the African Elephant in CITES Appendix I. However, on 25 October 1989, the country placed a one year ban on the export and import of ivory. The ban, which expired on 31 December 1990, was extended with a view to further negotiations with CITES Parties.

On 11 April 1991, Mr M.W. Matemba, Chairman of the CITES Standing Committee, announced that South Africa had submitted a request for the transfer of its elephant population from Appendix I to Appendix II. ▷ Resolution Conf. 7.9, adopted at the seventh meeting of the Conference of the Parties, establishes criteria for the transfer of certain African Elephant populations from Appendix I to Appendix II and calls upon the nomination of a Panel of Experts to advise Parties on requests for transferring particular elephant populations back to Appendix II. In April 1991, the Standing Committee established a Panel of five experts to examine the South African request. The Panel met for the first time on the 9 June and is required to produce a report within 45 days of that date. South Africa's request and the report of the panel will be considered at the eighth meeting of the Conference of the Parties in Kyoto, Japan, in March 1992.

WWF-UK; CITES Secretariat Press Release 11 April 1991

USA Proposes 'Endangered' Listing for African Elephant

The African Elephant has been listed since 1978 as 'threatened' under the *US Endangered Species Act 1973*. On 18 March 1991, the US Fish and Wildlife Service published a proposed rule in the *Federal Register* to upgrade the list for most populations of African Elephant to 'endangered'. The large, stable elephant populations in Botswana, South Africa and Zimbabwe would remain listed as 'threatened'. This would allow for continued imports of sport-hunted elephant trophies under certain conditions, although Botswana does not currently permit sport-hunting of elephants.

TRAFFIC USA

India and Taiwan Burn Wildlife Products

Confiscated reptile skins and products, valued at Rs600 000 (US$295 000) were destroyed in Madras, India, on 17 December 1990. The stock included 650 000 assorted snakeskins, 70 500 Monitor Lizard *Varanus salvator* skins, 2350 skins of Jungle Cat *Felis chaus* and Desert Cat *F. libyca*, stuffed mongoose and cobra and 761 snakeskin articles.

In Delhi, on 18 April 1991, officials from the Ministry of Environment and Forests set alight confiscated animal furs and skins worth Rs700 000.

On 30 January 1991, the Government of Taiwan publicly burned confiscated wildlife products, including over 350 kg of raw and worked ivory, four kg rhinoceros horn, over 200 turtle shell Chelonidae spectacle frames and assorted skins. This is the third public burning by Taiwan of confiscated wildlife products.

Indian Express, 18 December 1990; TRAFFIC Japan; Beauty Without Cruelty Press Release, April 1991

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Ivory on sale at Don Muang airport, Bangkok, February 1991

Thailand Wildlife Trade Ban

An international ban on trade in wildlife products from and to Thailand has been agreed by CITES, following the recent disclosures by WWF and TRAFFIC of the country's central role in a massive illegal trade in endangered species.

For several years, the CITES Secretariat has received numerous complaints from Parties and NGOs regarding Thailand's failure to implement CITES. The Secretariat has used all normal channels to persuade the Government of Thailand to take necessary actions, particularly with regard to the enactment of legislation for effective implementation of the Convention. Thailand's progress in this area has continued to be unacceptable.

This move follows the adoption of Resolution Conf. 7.5, at the seventh meeting of the Conference of the Parties, which recommends that the Secretariat takes a more active role in identifying enforcement problems concerning the implementation of the Convention.

At the 23rd meeting of the Standing Committee in April 1991, the CITES Secretariat presented a detailed report which focused on Thailand's failure to implement the Convention during the period January 1988 through March 1991. The Secretariat recommended in the report that the Standing Committee support a trade ban by the Parties on all CITES trade with Thailand. The Standing Committee has fully endorsed the recommendation.

Consequently, the Secretariat urges CITES Parties to immediately take all possible measures to prohibit trade with Thailand in any specimens of species included in the CITES Appendices.

CITES Secretariat, Notification to the Parties No. 636, 22 April 1991

Ivory Stocks in Hong Kong

A summary of the ivory stocks held in Hong Kong, as at 1 February 1991, is summarised below. In 1985, the Conference of the Parties to CITES adopted Resolution Conf. 5.12 requesting all Parties to register their raw ivory stocks by the end of 1986. International trade of the registered stocks was permissible at that time, even though their countries of origin might not have been known. Ivory stocks still held by Hong Kong and imported under this exemption, with CITES documents indicating countries of registration, but without countries of origin, are also listed.

Stocks with known country of origin:

Country of origin	Quantity (tonnes)
Sudan	37.0
Tanzania	16.3
South Africa	13.8
Congo	6.4
Central African Republic	5.1
Somalia	3.6
Mozambique	2.0
Uganda	1.9
Zambia	1.8
Chad	1.4
Zaire	1.2
Zimbabwe	1.1
Botswana	0.8
Others (Ivory Coast, Malawi, Ethiopia, Kenya)	0.4
Sub-total	**92.8**

Stocks imported from other countries registered under Resolution Conf. 5.12:

Country of registration	Quantity (tonnes)
Singapore	14.3
Burundi	5.0
Belgium	0.8
Hong Kong	12.1
Others (France, Austria, USA, Macao Switzerland, Japan, Djibouti)	0.6
Sub-total	**32.8**
TOTAL	**125.6**

WWF-Hong Kong

China Calls for Wildlife Protection

The People's Republic of China has issued a document calling on local governments to strengthen wildlife protection in response to increased poaching carried out during 1990, especially involving Taiwanese traders along the coast of Fujian province. This decision follows an investigation by TRAFFIC into wildlife smuggling across the Taiwan Strait (see page 29).

Jointly issued on 31 December 1990 by the Ministry of Forestry, the Ministry of Public Security, the Supreme People's Court, Protectorate and the State Industrial and Commercial Administration Bureau, the document urges local governments to strengthen wildlife protection efforts, paying special attention to cases which have occurred since the enactment of the *Wildlife Protection Law* in March 1989.

In late January, an inspection tour by government officials was instigated in Guangdong Province with the aim of examining the implementation of the State Council notification. A total of 59 restaurants, 24 free markets and ten ports were inspected, along with several private businesses. The inspectors found that the killing and selling of rare animals had increased in the Province.

The government of Yunnan Province also held emergency meetings to discuss how best to implement the State Council notification.

China Daily, 31 December 1990/14 February 1991

Asian Bonytongue Exports from Indonesia

Investigations in Japan have raised doubts with regard to the implementation of Indonesia's export quota for Asian Bonytongue *Scleropages formosus* (CITES Appendix I). A quota of 1250 specimens was agreed for 1990 under CITES Resolution Conf. 7.14.

During May to November 1990, three shipments totalling 800 specimens were imported to Japan under Indonesian export permits. A further 450 specimens were confiscated during this period as they were allegedly covered by false export documents; the fish have been placed in public aquaria serving as rescue centres. TRAFFFIC Japan has received information indicating that an additional two permits were issued by Indonesia covering exports of another 450 specimens to Japan, but these shipments are not believed to have arrived in Japan.

The Indonesian CITES Management Authority has been asked for details of all export permits issued for this species in 1990, but no reply has been received.

TRAFFIC Japan

Namibia Dehorns Rhinos

The Ministry of Wildlife, Conservation and Tourism in Namibia, in conjunction with Save the Rhino Trust, has dehorned an undisclosed number of Black Rhino *Diceros bicornis* as part of a comprehensive strategy to ensure the survival of the species in Damaraland.

This was the second dehorning operation in the area following the success of the 1989 dehorning programme. Other measures to protect the species include anti-poaching patrols and the translocation of threatened animals to safer areas.

According to Blythe Loutit of Save the Rhino Trust, animals dehorned in the 1989 operation do not appear to have been adversely affected by the removal of their horns. Two calves have been born to dehorned rhinos and mating between dehorned rhinos has been observed on two occasions. In addition, a calf which was dehorned is progressing well.

Ministry of Wildlife, Conservation and Tourism, Republic of Namibia, 11 April 1991

Elephant Poaching Increases in Cameroon

Between September and December 1990, poachers killed 27 elephants in Korup National Park, Cameroon. In the preceding 12 months, only three elephants died at the hands of poachers and the Korup population had been considered relatively safe.

Researcher James Powell, of Wildlife Conservation International, believes that with the price of ivory dropping precipitously as a result of the international ban, local chiefs in Cameroon and in neighbouring Nigeria are again able to afford to buy tusks for traditional ceremonial purposes. Enforcement of hunting regulations in Korup and measures to control incursions from Nigeria are urgently needed.

Wildlife Conservation International, March/April 1991

Musk Compound in Tobacco

In Cinnaminson, New Jersey, USA, a private company, DNA Plant Technology, has been awarded a patent for a new variety of tobacco that produces large amounts of sclareol. This scarce chemical is the main source of musk fragrance, other than that produced naturally by the male musk deer *Moschus*.

Environment News Service 1991

Whaling Catch Limits

In 1982, the International Whaling Commission (IWC) took a decision, which came into force for the 1985/86 seasons, that catch limits for all commercial whaling would be set to zero.

That decision also stated that by 1990 at the latest, the Commission would undertake a comprehensive assessment of the effect of the decision on whale stocks and consider modification of the provision and the establishment of other catch limits.

At the 1991 IWC annual meeting, held in Reykjavik, Iceland from 27 to 31 May, a proposal by Japan for an interim relief allocation of 50 Minke Whales *Balaenoptera acutorostrata* to be taken in its coastal waters by small whaling operations, was rejected.

Proposals by Iceland for interim catches of Fin Whales *Balaenoptera physalus* and Minke Whales were also not accepted by the Commission.

Aboriginal subsistence whaling continues under IWC regulations and the following catch limits were adopted:

Bowhead Whales ***Balaena mysticetus*** (Bering-Chukchi-Beaufort Seas stock taken by Alaskan Eskimos): the total number of strikes for the years 1992-94 inclusive shall not exceed 141 (with a provision to carry over a maximum of 13 whales, depending on the number of strikes made during the autumn 1991 hunt). In any one year no more than 54 whales shall be struck and no more than 41 shall be landed.

Grey Whales ***Eschrichtius robustus*** (Eastern North Pacific stock taken by Soviet Eskimos): for each of the years 1992, 1993, and 1994, the catch shall not exceed 169 animals.

Fin Whales (West Greenland stock taken by Greenlanders) : the catch limit for 1992 is 21 whales.

Minke Whales (West Greenland stock taken by Greenlanders): the total number of strikes for the years 1992-94 shall not exceed 315, with a maximum of 115 in any one year.

The following catch limits remain in force from previous years:

Minke Whales (East Greenland stock taken by Greenlanders): for each of the years 1990, 1991 and 1992, the catch limit is 12 Minke Whales.

Humpback Whales ***Megaptera novaeangliae*** (taken by St Vincent & The Grenadines): for the seasons 1990/91 to 1992/93, the annual catch shall not exceed three whales.

International Whaling Commission Press Information

New Secretary-General at CITES Secretariat

Ambassador Izgrev N. Topkov has been appointed Secretary General of the CITES Secretariat. The appointment took effect on 1 July 1991.

Ambassador Topkov is a Bulgarian citizen. Since 1966 he has served in his country's Ministry of Foreign Affairs. He was Minister Counsellor in the Bulgarian Embassy in Warsaw and, from 1988 to 1991, was Ambassador to Kenya, Uganda and the Seychelles. During the latter period he was his country's Permanent Representative to UNEP (United Nations Environment Programme) and to Habitat, the United Nations Centre for Human Settlements.

From May 1989 to May 1991, he was President of UNEP'S Governing Council. He has served as Chairman of the Ad Hoc Working Group of Government Representatives to prepare for a "Framework Convention on Climate Change" and has been active in intergovernmental work on other environmental issues and with a wide range of UN agencies.

CITES Secretariat Notification to the Parties No. 641

Meeting in Japan

The eighth meeting of the Conference of the Parties to CITES will be held in Kyoto, Japan, from 2-13 March 1992.

Details on the proposals to be discussed at the meeting will be contained in Vol. 12 No. 4 of *TRAFFIC Bulletin.*

Clarification

An item in our previous issue entitled 'Controversy over Asian Elephants' (*TRAFFIC Bulletin* 11(4):49) included a misleading statement referring to London Zoo's acquisition of four Asian Elephants *Elephas maximus* from a Dutch importer. We would like to make it clear that it was not our intention to imply that London Zoo accepted these elephants while suspecting that the animals had not been bred in captivity. Rather, the inclusion of a reference to this importation aimed to briefly illustrate the great difficulty in obtaining reliable information on the exact nature of elephant captive breeding in Myanmar (the origin of the animals in question). To our knowledge, London Zoo took all possible precautions to verify the origin of the elephants they received prior to importation.

Exploitation of the Short-tailed Shearwater in Tasmania

Debbie Callister

The Short-tailed Shearwater, or muttonbird, Puffinus tenuirostris, *is the only Australian bird harvested directly from the wild to form the basis of a commercial industry. This industry is based in Tasmania, where chicks are harvested for food, feathers for bedding, and oil for medicinal use and stock feed. Although utilised mainly for domestic consumption, the Short-tailed Shearwater and related products are also exported to New Zealand. Additionally, there is a large non-commercial harvest where restricted numbers of birds are taken by licensed individuals for their own use. Responsibility for the control and management of the Tasmanian muttonbird harvest is vested in the Tasmanian Department of Lands, Parks and Wildlife (DLPW), formerly the Tasmanian National Parks and Wildlife Service (TNPWS). This study aims to document the history, structure, status and management of this industry.*

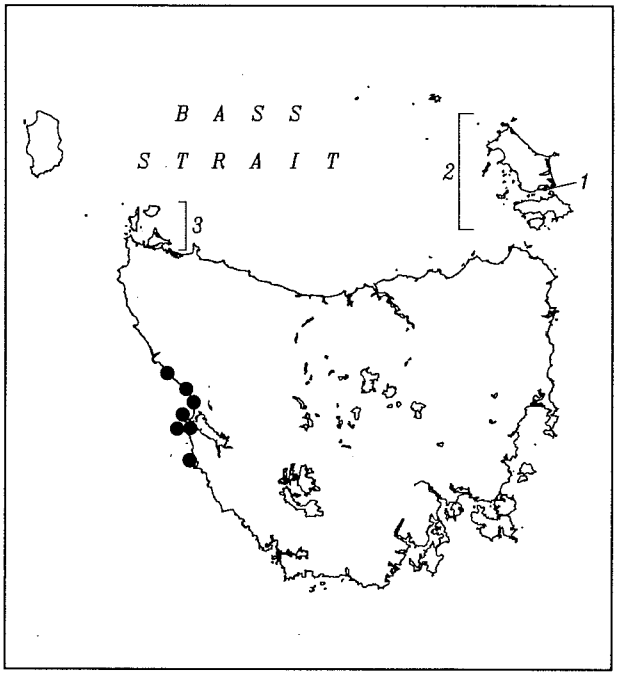

Figure 1. Important muttonbird rookeries on Tasmania and offshore islands (adapted from Anon., 1984)

Commercial rookeries: 1 - Fisher Island; 2 - Furneaux Group; 3 - Hunter Group ● *- non-commercial rookeries*

INTRODUCTION

A dark, smoky-brown bird with a length of 390-430 mm and a wing span of 860-960 mm (Pizzey, 1980), the Short-tailed Shearwater is a circum-Pacific migrant (Anon., 1984), travelling many thousands of kilometres during its annual migration. The mean life span of the species is 21 years (Serventy, 1974), although individuals banded as breeding birds have been recovered, still breeding, up to 31 years later (Anon., 1981).

The breeding pattern of the Short-tailed Shearwater is remarkably constant. This is an important factor in allowing controlled, sustained exploitation (Serventy, 1974). Actions such as arrival at colonies, egg-laying (in 0.5-2.0 m-long burrows), incubation, fledging and departure from colonies all follow a well-defined timetable.

The Short-tailed Shearwater breeds only in Australia, and is most abundant in Tasmania. The total breeding population has been estimated at 11.5 million pairs (Skira *et al.*, 1986). The most recent estimates put the Tasmanian breeding population at slightly over nine million pairs (Skira, 1987). They occur at 167 colonies on mainland Tasmania and the near offshore islands, with a further 15 small colonies located on islands in far eastern Bass Strait. Colony size ranges from less that 1 ha to 380 ha (Skira *et al.*, 1986). The largest, Babel Island, contains an estimated 2.86 million burrows (Towney & Skira, 1985).

To quote Skira *et al.* (1986; p.228): "The major threat to populations is man." Human predation aside, other causes of mortality in Short-tailed Shearwaters are: predation of birds and eggs by other birds, reptiles, Red Fox *Vulpes vulpes* (mainland only) and, especially, feral cats *Felis catus*; disease; starvation; physical destruction and flooding of burrows; and fires (Lewis, 1923; Naarding, 1980; Serventy & Curry, 1984; Serventy *et al.*, 1971; Skira *et al.*, 1986; Warham, 1960). A few hundred thousand birds are also drowned each year in the gillnets of Japanese fishermen in the North Pacific (King, 1984; cited in Anon., 1987). Natural annual mortality is 5% for adults (Skira *et al.*, 1986) and at least 50% for first year birds (Serventy, 1967). There are continuing natural losses of pre-breeding birds, but the majority occur in the first year (Serventy, 1967).

HISTORY OF THE HARVEST

Aboriginal Use

There is archaeological evidence that Aboriginals consumed Short-tailed Shearwaters on Tasmania and offshore islands (Bowdler, 1984; Vanderwal & Horton, 1984). The evidence suggests they formed only a small part of the diet.

Commercial Exploitation

The earliest recorded commercial transaction involving muttonbirds was the sale of 2.5 tons of feathers at Launceston, Tasmania, in 1831 (Backhouse, 1843). However there are records of the aboriginal wives of sealers harvesting Short-tailed Shearwaters in the Furneaux Group of islands from the early 1820s (Begg & Begg, 1979). Harvesting was initially concentrated in the Furneaux Group, with the industry increasing in impor-

tance in the Hunter Group during the 1950s (Hill *et al.*, 1981) (see Figure 1). Initially, adult birds, eggs, chicks, feathers, fat and oil were all traded but this changed as restrictions to the trade were introduced (see below).

In the 1800s, the number of birds taken appears to have been only slightly higher than current commercial harvest levels. Cott (1953) estimated that over 100 000 eggs were taken a year. 'Egging' was prohibited in 1902. By the turn of the century the number of birds taken annually had risen to around half a million. From around 1908 to 1925 approximately one million birds were harvested each year (Skira, 1987). Harvest levels slowly declined, stabilising by the 1940s to generally between 350 000-500 000 birds annually (Hill *et al.*, 1981). Recent takes have declined to about 300 000 (see Table 1).

The Short-tailed Shearwater harvest was seen for nearly a century and a half as the traditional cash crop industry for many of the Bass Strait islanders, but by the 1960s its importance began to decline (Carter, 1965). Financial incentives still motivate most operator participation, whilst tradition is also important to some. However the overall financial importance of the industry continues to diminish (Skira, 1987).

Aboriginal involvement in the Short-tailed Shearwater trade still continues. Although the commercial harvest was initiated by Europeans, probably influenced by similar harvests of seabirds on some British islands (Serventy, 1974), most of the people involved with the commercial industry are of Aboriginal descent (Skira *et al.*, 1986).

Methods used to take and process birds have changed little on many islands (Carter, 1965; Johnston, 1945). The chick is removed from the burrow by hand and its neck quickly broken. It is then threaded onto a long pointed stick (a spit) by the lower mandible, with its neck twisted to prevent the proventricular oil escaping. Each spit, which holds either 25 or 50 birds, is taken to the processing shed, where the oil is squeezed from the birds into a drum and the bodies plucked, scalded, pinfeathers removed, gutted, and heads, wings and feet cut off. Some birds are sold fresh and others are salted and packed in brine. There have been some changes to processing methods on other islands. Here the oil is not saved and the birds are carried to the processing sheds on motorbikes or flown off the islands to be processed elsewhere.

Short-tailed Shearwater *Puffinus tenuirostris* **© I. Skira**

Non-Commercial Exploitation

The history of non-commercial harvesting of the Short-tailed Shearwater in Tasmania is not well documented. There is, however, some documentation of its development in the neighbouring mainland State of Victoria. Here, colonies at Cape Woolamai, Phillip Island, were raided for eggs and chicks as early as the 1870s (Lewis, 1923). The main activity was 'egging'. By the early 1900s exploitation had reached such a level that calls were made for the introduction of greater protection, licence fees and the collection of statistics on the level of exploitation (Campbell & Campbell, 1913). Some of these controls, e.g. licences, were in place by the early 1920s (Lewis, 1923).

In Tasmania, the level of non-commercial harvesting has always been highest at those colonies close to population centres. Over-exploitation of populations by recreational 'birders' has become a problem over the last 30 years since increased motorisation has made access to colonies easier (Anon., 1987; Hill *et al.*, 1981). Although records are patchy prior to the 1970s,

	1980*	1981*	1982*	1983*	1984*	1985*	1986[1]	1987[2]	1988[3]
Birds taken	335 744	369 085	359 305	412 645	367 219	324 579	249 014	235 890	310 366
Birds sold	322 560	354 651	344 516	403 831	357 528	312 226	240 181	190 620	302 428
Oil (litres)	4 021	4 654	4 842	4 781	4 805	2 945	3 255	1 210	2 351
Feathers (kg)	0	0	1 081	0	1 133	400	0	202	5 523
" (bags)		81	118	128	167	145	115	114	27
" (bales)		19	11	24	10	10	11	7	19

Table 1. Commercial muttonbird statistics, 1980-1988

*Sources: *-TNPWS annual reports; [1]Anon., 1986; [2]Skira, in litt.; [3]DLPW annual report*

the number of licences issued for non-commercial harvesting seems to have increased continuously, reaching a peak of over 7000 in 1977 (Hill *et al.*, 1981). However, in recent years, their number has steadily declined (see Table 2), probably as a result of rotational closure of colonies and a reduction in daily bag limits (Anon., 1987). The marked decline in 1987 must be due to the large-scale closure of non-commercial colonies that year (see below).

Government Regulation of the Harvest

Regulation of the Short-tailed Shearwater harvest in Tasmania has occurred in two ways, with the prohibition of harvesting in certain areas, and the imposition of various restrictions and controls on the season. The first restrictions were introduced in 1891, with a two month harvesting season (Skira, 1987) and the declaration of three islands as muttonbird reserves (Hill *et al.*, 1981). Progressively, more controls were imposed; the taking of eggs was prohibited in 1902 and adult birds in 1976 (Skira *et al.*, 1986). From the late 1970s, increasing restriction was placed on the non-commercial harvest until, by 1987, most mainland colonies that were used for non-commercial purposes were closed (Anon., 1987).

CURRENT INDUSTRY STRUCTURE

Legislation and Agreements

In Tasmania, the Short-tailed Shearwater is classed as "partly protected wildlife" under the *Wildlife Regulations 1971* of the *National Parks and Wildlife Act 1970*. This allows for the taking of such species under licence during open seasons, and for the sale of certain species, or products of these species, by commercial operators. In all other States of Australia the Short-tailed Shearwater is fully protected.

Export of Short-tailed Shearwaters and their products is covered nationally by the *Wildlife Protection (Regulation of Exports and Imports Act) 1982*. Under the Act commercial exports of wild-taken Short-tailed Shearwaters are only allowed if the animals are taken in accordance with an approved management programme. The Tasmanian Government annually submits a management programme for approval by the relevant Federal Minister (currently the Minister for the Arts, Sport, the Environment, Tourism and Territories). Once this programme is approved, exports of Short-tailed Shearwaters or their products are allowed.

The Short-tailed Shearwater is listed in the *Agreement between the Government of Australia and the Government of Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment* (JAMBA). JAMBA allows the taking and trading of listed birds provided a hunting season, which takes into account the maintenance of the birds normal reproduction rate, has been established.

Year	Non-Commercial	Commercial operator	Commercial catcher	Total
1980	4644	16	61	4721
1981	4790	15	69	4874
1982	4326	15	64	4405
1983	3882	15	70	3967
1984	2269	16	69	2354
1985	3039	16	64	3119
1986	2865	14	50	2929
1987	918	13	41	972
1988	1157	14	43	11 214

Table 2. Annual licence sales, 1980-1987
Source: TNPWS annual reports

Reserves

There are ten reserves covering 712 ha where commercial harvesting is permitted and 52 reserves (272 ha) where it is prohibited; a further 105 reserves (537 ha) have been designated for non-commercial take, but most of these were closed in 1987 (Anon., 1987).

An estimated 4.4 million pairs breed on commercial colonies, 3.8 million pairs on non-commercial colonies (which includes both open and closed non-commercial colonies) and 1.58 million pairs on colonies where harvesting is prohibited (Skira, 1987). Permits are issued by DLPW to allow harvesting on declared reserves. They are automatically issued provided a current 'muttonbirding' licence is held. Non-commercial harvesting is generally not allowed on commercial colonies, although there are no specific regulations governing this. Requests by commercial operators to harvest new colonies are customarily rejected by DLPW (Anon., 1987; Skira *et al.*, 1986).

Year	No. birds caught	No. birds exported (DLPW figs.)	% comm. take	No. birds exported (ANPWS figs.)
1980	335 744	140 604	41.89	-
1981	369 085	183 025	49.59	-
1982	359 305	186 120	51.80	-
1983	412 645	229 159	55.53	-
1984	367 219	163 590	44.55	99 462*
1985	324 579	116 985	36.04	147 635
1986	249 014	123 865	49.74	113 865
1987	235 890	79 500	33.70	79 500
1988	310 336	120 880	38.95	120 880

Table 3. No. of birds caught commercially and exported to New Zealand, 1980-1988 * - *from 1 May 1984 only*
Source: Adapted from Anon., 1988; ANPWS figures from ANPWS, in litt.

Year*	Weight (kg)	Value for Duty (NZ$)
1978	69 943	115 967
1979	86 446	165 324
1980	112 228	219 536
1981	69 956	205 421
1982	109 185	348 876
1983	125 885	378 324
1984	107 833	356 402
1985	60 775	230 135
1986	30 570	127 925
1987	30 835	97 983

Table 4. Weight and value of muttonbird imports into New Zealand, 1978-1987
- *ended 30 June

Licences

In order to take muttonbirds, it is necessary to hold a licence. There are three classes of licence issued - operator, catcher (both commercial licences), and non-commercial. The number of licences issued for the period 1980-1988 is given in Table 2. In addition, operators pay a licence fee to allow them to build and occupy bird processing sheds (Skira, 1987).

Current Season Restrictions

The 1988 commercial harvesting season ran from 27 March to 30 April and the non-commercial season from 2 to 17 April. In line with past practice, no bag limit was set for commercial catchers. The following daily bag limits were set for non-commercial birders: 15 - West Coast; 25 - Settlement Point, Flinders Island; and 50 - Bass Strait. As has been the case for some years, only chicks were allowed to be taken, and harvesting at night was prohibited.

A major change in the 1987 season was the closure of all non-commercial colonies to harvesting except for those in Bass Strait, and eight colonies covering 30.5 ha on the West Coast between Pieman Heads and Low Rocky Point. These closures remained in force for the 1988 and 1989 seasons.

Year	82	83	84	85	86	87*	Total
No. of offenders	21	70	32	35	37	10	205
No. of charges	47	147	58	88	75	23	438
No. of convictions	44	137	42	76	70	18	387
No. of dismissals	3	10	9	2	0	4	28
Fines (A$)	1952	5835	2547	4943	4752	2894	22 923

Table 5. Offences relating to muttonbirds, 1982-1987
Adapted from Anon., 1987; ***** *- Skira,* in litt. *to ANPWS*

Employment

In the 1985 season (the most recent figures available), approximately 150 people were employed in the industry. There were 13 operators, 64 catchers and the rest were shed hands (Skira, 1987).

PRODUCTS AND MARKETS

The commercially traded products of the muttonbird industry are: whole birds - fresh, salted or frozen; feathers; and oil. Birds are either exported to New Zealand or interstate, or sold locally in delicatessens and 'fast-food' shops. Interstate trade amounts to less than 10 000 birds a year (Anon., 1987). Feathers are sold to mills in Melbourne, Victoria, and oil is sold locally (Skira, *in litt.*). Details of volumes of production are given in Table 1. Birds taken during the non-commercial harvest are not allowed to enter trade and are used for local consumption.

Total revenue from the muttonbird industry is small. In 1985 it was A$328 000. Profits for individual operators ranged from nil to A$24 000. Total profit across all operators was A$81 500. Catchers received between A$700 and A$1600 and shed hands A$400 to A$1500, with an average of about A$1000 and A$700 respectively (Skira, 1987).

Australian export figures for Short-tailed Shearwaters are given in Table 3 and New Zealand import figures in Table 4. Both tables indicate a decline in exports to New Zealand in recent years. Examination of Table 3 shows discrepancies between the two sources of export figures in 1985 and 1986. If the 1985 and 1986 exports are totalled, ANPWS figures show 20 650 more muttonbird carcasses exported than do DLPW figures for the same period (ANPWS-261 600; DLPW-240 950).

There appear to be three possible explanations for this discrepancy. Firstly, that muttonbirds are stockpiled outside Tasmania before export to New Zealand. Secondly, the actual number exported may be less than the numbers for which permits were issued. ANPWS claims that it is not always notified of when this occurs. Or, lastly, that there is some degree of illegal export.

The second explanation is probably the correct one. Once outside Tasmania, stockpiling only occurs when there is a holdup in transport. DLPW considers illegal export to occur only at very low levels (Skira, *in litt.*). New Zealand will not accept imports of birds without permits.

It is also difficult to correlate reported exports and imports. They are given in different units and cover different time periods (NZ - fiscal year; ANPWS - calendar year; DLPW - season). Despite this, there do seem to be some recognisable discrepancies, particularly over recent years. In 1986, Tasmania reported a slight increase in exports and New Zealand a 50% decrease in imports (based on number of birds and weight respectively). The taking of birds during the 1986 season but exported in the 86/87 financial year, does not appear to be a feasible explanation. Imports being declared or classified as something other than muttonbirds is perhaps more likely.

MANAGEMENT STRATEGY

History and aims

The current muttonbird management strategy is formalised in the management programme submitted each year to the Federal Government.

The stated aims of the management programme are: "(1) to conserve the existing populations over the present range of colonies; (2) to allow the harvest of Short-tailed Shearwater chicks or muttonbirding on specific colonies on a sustained yield basis" (Anon., 1987; p.2).

The main management tool employed by DLPW has been the imposition of various restrictions and controls on the harvest. Gathering statistics on the trade and undertaking biological research on the species are also considered important.

Population Monitoring

Population monitoring is carried out to determine breeding details, recruitment, adult mortality, etc. This information is used to calculate a Maximum Sustained Yield (MSY). Methods of population monitoring are outlined in Anon. (1987) and Skira *et al.*, (1986).

Figures gathered from long-term studies of the population on Fisher Island and studies on other colonies (e.g. Naarding, 1980), give an MSY of 37%. This figure is used for the entire Tasmanian population, the assumption being that any yield of chicks over 37% puts the population at that colony in danger of decline.

Commercial Harvesting:

Information on the size of commercial colonies, the level of burrow occupancy and the number of birds taken, is known for commercial colonies. This enables the annual yield to be easily calculated. From 1981 to 1988, at the seven major commercial rookeries, the MSY was exceeded three times; at two rookeries in 1987 and at one of these, again, in 1988.

Non-Commercial Harvesting:

Recreational 'birders' are not required to notify DLPW of the number of birds they take. However, based on licence sales and bag limits, the harvest for a number of years prior to 1987 was estimated to be 300 000 birds a season. (This figure does not include an estimate for the number of birds taken illegally each year, so that the true harvest by recreational birders was almost certainly much higher). Since 1977 heavily exploited colonies have been monitored by counting burrow occupancy before and after the harvest. This indicated that between 1977 and 1981, on some colonies, more than 90% of chicks were being taken. Measures introduced to lower this failed and in 1985 and 1986 the harvest level at these colonies was still over 90% (Anon., 1987; Skira *et al.* 1986).

Licence sales in 1987 were approximately one-third of those in previous years. Therefore it would be expected that the overall number of birds taken would also have declined. Statistics listed in a DLPW leaflet distributed with licences in 1988, indicates harvest levels in some areas were still over the MSY: 65-78% at West Coast colonies and 25-85% in the Furneaux Group. However colonies not in these areas, which were previously subject to heavy harvesting but are now closed, will have a chance to recover.

PROBLEMS WITH THE HARVEST

Habitat Destruction

Habitat destruction can be caused by grazing animals, flood and fire. There is also human damage to burrows. Every season burrows are dug up to gain access to chicks, collapsed due to people walking on them, or damaged in other ways which make them unsuitable for further breeding. Pedestrian traffic also damages vegetation and leads to erosion (Naarding, 1980). Attempts at both education and detection of people destroying burrows have failed (Skira, 1987).

Illegal Harvesting

Illegal harvesting is a perennial problem for DLPW and can take a number of forms. Chicks are poached either before the season opens, or at night when they come to the surface to exercise prior to migration. Birds are also taken from reserves and closed colonies, without a permit or in excess of permit.

Details of the number of infringements associated with past harvests are given in Table 5. It shows that the number of offenders apprehended in 1987 dropped by one-third. However as the number of non-commercial licences sold also dropped by a similar percentage, the ratio of the number of offenders to the number of licences sold remained fairly stable (1984-1:71; 1985-1:87; 1985-1:77; 1987-1:92).

Naarding (1980) studied muttonbirds at 20 colonies, including large and small commercial, non-commercial and supposedly unexploited colonies. He found evidence of illegal harvesting before the opening of the season at the majority of colonies. At some colonies the number of birds taken illegally exceeded the number taken legally. For example, at the Trial Harbour colony, only 15% of the chicks present 1.5 months before the season opened, were still in their burrows just prior to opening day. The majority of the rest had been poached.

In 1987 DLPW considered poaching to be only a "minor problem" (Skira, *in litt.*). This is a positive sign if true, as one might have expected an increase in poaching in 1987, due to the closure of many previously popular and heavily exploited colonies.

Over-harvesting

Over-harvesting of populations at non-commercial colonies poses the greatest threat to individual populations. Studies have attributed decreases in population (Norman, 1985) and lower burrow occupancy rates (Naarding, 1980; Skira & Wapstra, 1980) to past heavy harvesting. Management measures introduced prior to the 1987 closure of non-commercial colonies have been ineffective at lowering harvest levels. In 1987 the number of birds taken during the non-commercial harvest decreased, but the MSY was still exceeded at a number of colonies.

Harvest levels over the MSY have not been a problem with the commercial industry, and the only two instances of takes over the MSY in the recent past also occurred during the 1987 season. This should be monitored closely to ensure it is not the beginning of a trend.

Researchers give different assessments of over-harvesting effects. One difficulty with observing any effects of over-harvesting is the long life-span of the bird (21 years on average). The impact of recent over-harvesting may thus not become fully apparent until after this period (Skira & Wapstra, 1980). "Then the fall could be sudden and dramatic" (Skira & Wapstra, 1980; p.238).

FUTURE OF THE HARVEST

Commercial

Over the past few years the number of Short-tailed Shearwaters taken each season has declined. Some sheds have closed and others have been amalgamated (Anon., 1987). Skira (1987; p.71) attributes this decline, not to a diminishing resource, but to "... changing eating habits...; lack of interest in a greasy product which can be difficult to promote; ever-increasing expenses, and the decline of tradition in younger Aboriginal Tasmanians." His view, and that of muttonbirders, is that the commercial industry will eventually disappear, primarily through lack of young people becoming involved. This opinion is not new. Carter (1965) commented on the decline of the industry and the reluctance of the young to become involved as far back as the 1960s. It seems therefore that commercial 'muttonbirding' is a declining, but not yet a dying, industry.

Non-Commercial

Skira (1987) notes that the problems involved with the recreational harvest far outweigh any benefits. In order to combat these problems the season has been closed indefinitely, except on Bass Strait Islands (where the problems are less pronounced) and on the West Coast. While it is expected that poaching will continue, this should be less than if the colonies were open for harvesting. This is supported by the results of the 1987 harvest where poaching was only a small problem (Skira, *in litt.*). Increased pressure to stop recreational harvesting is also being applied by animal welfare groups opposed to the harvest. Therefore, unless there is a turn-around in policy by the Tasmanian Government, it appears that non-commercial harvesting is also on the decline. However even if recreational harvesting is prohibited, it is likely that poaching will continue.

CONCLUSION

The number of birds taken legally in the annual harvest has decreased from around one million birds in the early 1900s, to almost certainly less than half a million in 1987. Illegally-taken birds may add to this figure, the extent to which, it is difficult to gauge. Social and economic factors are leading to the decline of the commercial industry, although any cessation of the industry is still some way off. Future non-commercial harvest levels are more difficult to predict. Recent measures introduced by DLPW to lower the level of non-commercial harvesting are positive. Their long-term effectiveness and the future of the non-commercial harvest will rely on Government policy and possibly an increase in adverse public opinion.

There is no evidence that harvesting has altered the Tasmanian Short-tailed Shearwater population level, but it has adversely affected numbers at some individual colonies. Recent high harvest levels could still have a deleterious effect, which, given the long life-span of the species, may not become apparent for a number of years.

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Trade in Wild-collected Slipper Orchids in Japan

Kazuko Yokoi and Tom Milliken

The international trade in orchids is being increasingly subjected to stricter regulation under CITES. Two orchid genera, Paphiopedilum *and* Phragmipedium *(slipper orchids), were transferred from Appendix II to Appendix I at the seventh meeting of the Conference of the Parties. These controls took effect from 18 January 1990 and effectively prohibit all commercial trade in wild-collected plants. However, while mericlone (tissue culture) techniques have improved and hybrid orchids are very popular in Japan, wild-collected orchids are still favoured among collectors. Because mericloned orchids have a uniform appearance and the number of flowers remains the same every year, they are less attractive to collectors who desire plants with unique characteristics. In the competitive world of orchid collectors, possession of wild-collected, rare, and increasingly expensive species gives owners a status commonly-traded plants simply cannot. Japanese interest in* Paphiopedilum *is broad and has been one of the leading factors in the decline of many species in the genus.*

Paphiopedilum godefroyae

INTRODUCTION

The range of *Paphiopedilum* extends from India eastwards across southern China to the Philippines and throughout South-East Asia and Indonesia to New Guinea and the Solomons. In 1987, a monograph (Cribb, 1987a) recognised approximately 60 species in the genus; several more have been described since then.

In Japan, interest in *Paphiopedilum* orchids intensified following the 12th World Orchid Conference (WOC), held in Tokyo in March 1987. During the event, such a large number of wild-collected *Paphiopedilum* specimens were displayed by Japanese participants, including a *P. micranthum* specimen which captured the coveted Growers' Prize, that a special press conference was held by foreign organizers to announce a ban on the entry of wild-collected orchid specimens to future WOC events.

RESULTS OF SURVEYS

To examine recent trends in the Japanese orchid trade, particularly trade in species listed in CITES Appendix I, TRAFFIC Japan carried out an analysis of a number of sales catalogues and conducted a consumer market survey of selected nurseries in the Osaka area in April and May 1990. It was found that, in response to increasing demand by orchid collectors, at least three new Japanese nurseries and one plant magazine publisher, had set-up orchid import/export businesses over the previous year, joining other Japanese companies already active in the trade. One of the new nurseries has reportedly established a branch in the Philippines, while the publisher imports orchids from all over the world for distribution through a nationwide mail order business. The publisher also arranges the import of rare and hard-to-obtain species upon request and organizes collecting tours.

Orchid species offered in the sales catalogues of these companies included some 340 species or varieties representing 47 genera, with Asian species clearly predominating. Among these were 65 *Paphiopedilum* species or varieties, including *P. adductum, P. armeniacum, P. barbigerum, P. bougainvilleanum, P. delenatii, P. druryi, P. emersonii, P. exul, P. fowliei, P. glaucophyllum, P. hookerae, P. malipoense, P. micranthum, P. randsii, P. roebelenii, P. rothschildianum, P. stonei, P. sukhakulii, P. supardii,* and *P. urbanianum,* all now believed to be virtually extinct in the wild (Table 1).

A survey of five commercial nurseries identified a total of 16 *Paphiopedilum* species for sale, including three taxa not found in the catalogue survey (Table 1). A review of Japan's CITES annual report data from 1983 to 1987 provides evidence of Japanese trade in at least

another 19 *Paphiopedilum* species or varieties (although some may not be valid taxa or may represent hybrids) (Table 2). Collectively, these lists include virtually every species in the genus and clearly demonstrate a broad Japanese interest in *Paphiopedilum*. Prior to 1985, Japan's orchid imports were rarely identified generically, much less to species level. Consequently, thousands more *Paphiopedilum* plants are believed to have been imported simply as "Orchid spp." during the period examined. In 1984, only 209 *Paphiopedilum* plants were specifically identified in the Japanese CITES annual report, while in 1987 the total reached 106 121 plants (Table 2).

While the quality of CITES data has improved somewhat in recent years, in 1987, the most recent year for which there was Japanese data at the time of this study, 43% of the trade in *Paphiopedilum* orchids continued to be identified only at the generic level in Japan's annual report. It is conceivable, however, that Japanese dealers imported over a million *Paphiopedilum* plants during the last decade.

Dealers interviewed at Japanese nurseries identified Taiwan, Hong Kong, and the USA as major sources for *Paphiopedilum* plants, although Hong Kong does not appear as a source in Japan's CITES annual report data. Hong Kong, however, is generally recognised as the major supplier to Taiwan of *Paphiopedilum* species with Chinese distributions; in fact, virtually all Chinese species identified in the Japanese CITES data were obtained from Taiwan. Dealers also mentioned that some species have been obtained directly from China, although CITES data do not identify this trade pattern for *Paphiopedilum*.

Two nurseries in the USA were specifically mentioned as supplying a wide range of wild-collected *Paphiopedilum* species to Japanese importers. According to CITES annual report data, trade from the USA in 1987 did not exceed 500 plants, but in the early 1980s the USA was a major supplier. CITES data also identify the Philippines and Thailand and, to a lesser extent, Malaysia and Indonesia, as having been major suppliers of *Paphiopedilum*. Italy, the Netherlands, and New Zealand also exported plants, probably artificially propagated specimens, to Japan.

During the survey, nursery dealers stated that prices for *Paphiopedilum* orchids have dropped considerably in recent years as a result of increased availability of most species in Japan. Indeed, it was reported that *P. armeniacum* and *P. micranthum* plants sold for as much as ¥500 000 (US$3333) each when the species were first introduced to Japan shortly after their discovery in Yunnan Province in southwest China in the early 1980s. Prices subsequently plummetted in the face of increased importation when other populations were discovered, collected and exported (illegally) from China, and when artificial propagation of the species was reportedly achieved in Taiwan. Flowering plants can now be obtained for ¥4000 and ¥1500 for plants without flowers. Cribb (1987a) reports a similar phenomenon in the West for *P. armeniacum*, but op prices never exceeded US$500 a growth.

Paphiopedilum rothschildianum, the entire known wild population of which occurred within Kota Kinabalu National Park in Sabah, Malaysia, until its virtual extermination due to illegal collection in recent years, was the most expensive species offered in the catalogue survey, with individual plants priced at ¥80 000. Although Japan's CITES annual report data examined for this report only identify the importation of 20 plants, 14 of which were wild-collected, TRAFFIC researchers found 31 wild-collected *P. rothschildianum* plants at a single nursery in the Osaka area.

Other highly-priced species included *P. kalopakingii*, an endangered species known from only a single locality in Kalimantan, Indonesia, at ¥20 000 each, and *P. delenatii*, a Vietnamese species likely to be extinct in the wild, for ¥15 000 a plant; *P. superbiens*, a virtually extinct Indonesian species, was priced at ¥10 000 a plant. Otherwise, prices for all other species did not exceed ¥7000 and sometimes were as cheap as ¥1000 apiece.

In Japan, all wild-collected Appendix I orchids must be registered with the CITES Scientific Authority, the Environment Agency, under the *Law for Regulation, etc.,* [sic] *of the Transfer of Endangered Species of Wild Fauna and Flora 1987* in order to be eligible for domestic trade. However, not a single *Paphiopedilum* specimen was registered by the time the deadline for the Appendix I listing came into effect on 18 January 1990, and none has been registered in the interim. The reason for this is that Japanese plant dealers are claiming that all *Paphiopedilum* specimens currently in the country are artificially propagated plants which are exempt from registration under the law.

This would seem to be an incredible claim in view of the fact that Japan's CITES annual report data indicate that almost 160 000 *Paphiopedilum* plants - 58% of the trade from 1983 to 1987 - were wild-collected specimens. Indeed, CITES data show that all specimens of at least 16 species, including *P. bellatulum*, *P. callosum*, *P. charlesworthii*, *P. concolor*, *P. exul*, *P. glanduliferum (praestans)*, *P. godefroyae*, *P. niveum*, *P. parishii*, *P. stonei*, *P. sukhakulii*, *P. venustum*, and *P. villosum*, which were all identified in TRAFFIC's catalogue surveys, were wild-collected.

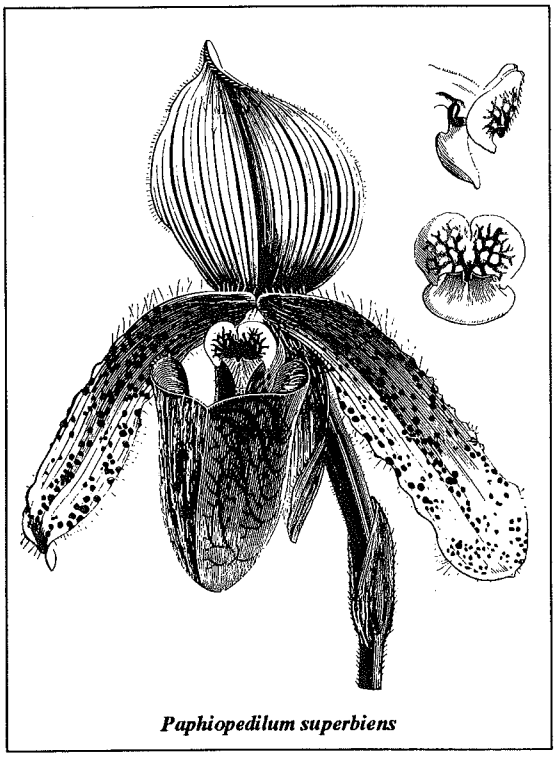
The abuse of the exemption for artificially propagated *Paphiopedilum* orchids was highlighted in April 1990 at the International Flower and Greenery Exposition, an event hosted by the Japanese Government in Osaka. With 20 million visitors expected to visit the Exposition, TRAFFIC Japan anticipated that commercial nursery dealers would actively promote the sale of rare and protected plants, including *Paphiopedilum* orchids, at the various commercial sales outlets allowed on the premises. Before the opening of the event, TRAFFIC presented an official letter of request to the exhibition organisers calling for a ban on the commercial sale of any wild-collected plant species listed in Appendix I of the Convention.

Soon after the Exposition opened, an enterprising newspaper reporter found specimens of *Paphiopedilum*

armeniacum and *P. micranthum*, allegedly propagated in Taiwan, for sale at one of the nursery booths. Several plants were purchased and later examined by an orchid expert who unequivocally judged them to be wild-collected specimens. As a result of ensuing negative publicity, officials at the Exposition banned all further sales of *Paphiopedilum* plants on the premises.

The nursery dealer, however, continues to claim that the specimens were propagated at an exclusive nursery in Taiwan and imported into Japan after they had successfully produced flowers. This seems unlikely for several reasons. The two species, *P. armeniacum* and *P. micranthum*, were only discovered about eight years ago in China. Since *Paphiopedilum* orchids are comparatively very slow-growing, with leaf growth reportedly reaching only four centimentres three to four years after division, it is unlikely that plants capable of producing flowers could be produced in such a short period of time. Moreover, the two species in question produce few seeds and the germination rate is reportedly low. And, finally, mericlone techniques have not been perfected for most species, only for certain *Paphiopedilum* interspecific hybrids; in fact, the displayed specimens exhibited many individual characteristics which would not be found in mericloned plants. Individuals affiliated with other Japanese nurseries further dispute the claim that artificial propagation for *Paphiopedilum* species has succeeded in Taiwan.

Claiming wild-collected specimens as artificially propagated has been a technique vigorously exploited by Japanese importers in recent years to avoid import controls. For example, 80% - over 80 000 plants - of the *Paphiopedilum* trade reported in Japan's CITES annual report for 1987 was identified as artificially propagated, including all of the trade from Taiwan and most imports from Thailand and the Philippines. Experts familiar with the trade are extremely sceptical that propagation is common in these countries and believe that most plants are simply traded as artificially propagated specimens to circumvent CITES restrictions.



Paphiopedilum superbiens

RECOMMENDATIONS

Japan's Environment Agency should immediately take action against dealers who are defiantly flouting the legal requirement to register *Paphiopedilum* plants in their possession by claiming them to be artificially propagated. With the assistance of plant experts and TRAFFIC Japan, the police should be able to identify a wide range of wild-collected specimens in the market place and successfully prosecute offenders. At the same time, the Ministry of International Trade and Industry, Japan's CITES Management Authority, should ban all further imports of *Paphiopedilum* orchids unless trade involves mericloned specimens or plants proven to be artificially propagated. It is very doubtful if Customs officers or Ministry of Agriculture, Forestry and Fisheries plant inspection officers are adequately examining imported orchid plants to certify that they are in fact propagated specimens. A description of how to distinguish wild-collected *Paphiopedilum* plants from artificially propagated specimens, which was circulated to CITES Parties as part of the Appendix I transfer proposal for the genus, should be translated into Japanese and used by inspection officers.

It is likely that importation of rare *Paphiopedilum* species as personal effects will now become more common in the face of CITES controls on commercial shipments. Until law enforcement capabilities improve and existing domestic trade controls are implemented in Japan, illegal trade in *Paphiopedilum* orchids is likely to continue unabated.

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Table 1. ***Paphiopedilum*** **orchids identified in survey of selected Japanese sales catalogues and nurseries (April/May 1990)**

Species/ Variety	Catalogue survey	Price in ¥	Nursery survey	Price in ¥	Distr.	Status
Paphiopedilum						
adductum	Y	4000	-	-	PH	E→EX
angthong (hybrid)	Y	2000	-	-	TH	E
argus	Y	2000	-	-	PH	E
armeniacum	Y	1500-4000	Y	1500-4000	CN	E→EX
barbatum	Y	2000	Y	?	MY	E
barbigerum	Y	3000	-	-	CN	E→EX
bellatulum	Y	2000-2500	-	-	MM,TH,CN	E
bougainvilleanum	Y	?	-	-	PG	E→EX
bullenianum	Y	2000	-	-	MY,ID	E
callosum	Y	1700-2000	-	-	TH,KH,LA	E
chamberlainianum[1]	Y	5000	-	-	IN?	?
charlesworthii	Y	4000	Y	?	MM	E
ciliolare	Y	2500-3000	-	-	PH	E
concolor	Y	1700-2000	Y	-	MM,TH,LA, KH,VN,CN	E
curtisii[2]	Y	5000	-	-	?	?
delenatii	Y	7000-15 000	-	-	VN,CN(?)	Prob.EX
dianthum	Y	4000	-	-	CN,TH	E
druryi	Y	?	-	-	IN	EX
elliotianum[3]	-	-	Y	?	?	?
emersonii	Y	2000	Y	?	CN	E→EX
*emersoniianum**	Y	3000	-	-	CN?	?
esquirolei[4]	Y	2500	-	-	CN,TH	E
exel[5]	Y	2000	-	-	?	?
exul	Y	2000-3000	-	-	TH	E→EX
fowliei[6]	Y	2000	-	-	PH	E→EX
glaucophyllum	Y	2000	-	-	ID	E→EX
godefroyae	Y	2000	-	-	TH	E
haynaldianum	Y	3000-4000	-	-	PH	E
hennisianum	Y	2000	Y	2000	PH	E
henryanum	Y	2000-3000	-	-	CN	E
*hirsutissimum***	Y	2000	-	-	IN,CN,TH	E
var.*esquilorei*	Y	4000	-	-	?	E
holdenii	-	-	Y	?	?	?
hookerae	Y	?	-	-	MY,ID	E→EX
*insigne****	Y	1000	-	-	IN,NP	E
javanicum	Y	3000	-	-	ID	E
kalopakingii	Y	20 000	-	-	ID	E
laevigatum[7]	Y	4000	-	-	PH?	?
lawrenceanum	Y	?	-	-	MY	E
leucochilum[8]	Y	2000	-	-	TH?	?
liemianum	Y	4000	-	-	ID	E
malipoense	Y	3000	Y	?	CN	E→EX
mastersianum	Y	5000	-	-	ID	E
micranthum	Y	1500-2000	Y	1500-4000	CN	E→EX
millmanii	-	-	Y	?	?	?
niveum	Y	1700-2000	Y	?	TH,MY	E
parishii	Y	3000	-	-	MM,TH,CN	E
philippinense	Y	1500-3000	-	-	PH,MY	E
praestans[9]@	Y	10 000	-	-	NG?	?
purpuratum	Y	2500-3000	Y	2300	HK,CN	E
randsii	Y	3500	-	-	PH	E→EX
var.*giganteum*	Y	6000	-	-	PH?	?
roebelenii[10]	Y	3500	-	-	PH	E→EX
rothschildianum	Y	80 000	Y	?	MY	E→EX
stonei	Y	5000	-	-	MY	E→EX
sukhakulii	Y	1700-2000	-	-	TH	E→EX
supardii	Y	10 000	-	-	ID	E→EX
superbiens	Y	5000	-	-	ID	E
thailandensis[11]	Y	2000	Y	1000	TH?	?
tonsum	Y	3000	-	-	ID	E
urbanianum	Y	2500	-	-	PH	E→EX
venustum	Y	2000-3000	-	-	IN,NP,SK,BH	E
victoria-mariae	Y	7000	-	-	ID	E
villosum	Y	2000	-	-	IN,MM,TH	E
var. *measuresianum**	Y	3000	-	-	TH?	?
violascens	Y	5000	-	-	ID	E
wardii	Y	5000	Y	?	MM,CN	E
wolterianum[12]	Y	2000	-	-	TH?	?

Y = identified in catalogue/nursery survey; - = not identified in catalogue/nursery survey; ? = data not available; E→Ex = Endangered almost Extinct
BH = Bhutan; CN = China; ID = Indonesia; IN = India; JP = Japan; KH = Cambodia; LA = Laos
MM = Myanmar; MY = Malaysia; NG = New Guinea; NP = Nepal; PH = Philippines;
PG = Papua New Guinea; SK = Sikkim; TH = Thailand; VN = Viet Nam
Catalogues entries as follows: *newly discovered; **MM country of origin; ***TH country of origin; @rare NG spp.

[1](=*victoria-regina*); [2](=*superbiens*); [3](=*rothschildianum*? or *adductum*?); [4](=*hirsutissimum* var. *esquirolei*); [5](=*exul*?); [6](=*hennisianum* var. *fowliei*); [7](=*philippinense*); [8](=*godefroyae*); [9](=*glanduliferum*)
[10](=*philippinense* var. *roebelenii*); [11](=*callosum* var. *sublaeve*); [12](=*appletonianum*)

Table 2. Japanese imports of *Paphiopedilum* orchids (1983-1987)

Species	1987	1986	1985	1984	1983
Paphiopedilum					
hybrids	4377	-	-	-	-
spp.	46 207	13 149	202 12	209	43 318
acmodontum	230	-	-	-	-
adductum	300	-	-	-	-
*angthong**	5	310	1180	-	-
appletonianum	3950	-	-	-	-
argus	400	-	-	-	-
armeniacum	8039	-	-	-	-
barbatum	10	-	1	-	-
barbigerum	-	-	300	-	-
bellatulum	8256	3222	6254	-	-
bullenianum	-	1	-	-	-
callosum	2560	13 182	197	-	-
capablanca	1000	-	-	-	-
chamberlainianum	10	-	-	-	-
charlesworthii	150	170	-	-	-
chedisamongse	20	-	-	-	-
ciliolare	1295	-	-	-	-
concolor	1216	1940	2530	-	-
curtisii	65	-	-	-	-
dayanum	-	-	30	-	-
delenatii	-	16 810	300	-	-
dellatulum	300	-	-	-	-
druryi	4	11	-	-	-
elliotianum	195	-	-	-	-
emersonii	700	-	-	-	-
equilorei(=esquirolei?)	300	-	-	-	-
esquirolei	901	-	-	-	-
exul	121	10	1000	-	-
findlayanum	69	-	-	-	-
formosum	399	-	-	-	-
fowliei	16	-	-	-	-
godefroyae	2536	1958	300	-	-
gratrixianum	10	-	-	-	-
haynaldianum	408	-	-	-	-
hennisianum	97	-	-	-	-
henryanum	200	-	-	-	-
hirsutissimum	142	206	1100	-	-
hookerae	15	-	700	-	-
javanicum	-	20	36	-	-
kalopakingii	5	2	-	-	-
lawrenceanum	-	2	-	-	-
leavigatum	160	-	-	-	-
leucochilum	20	-	-	-	-
liemianum	50	-	-	-	-
lowii	-	2	11	-	-
lurvigatum	6	-	-	-	-
malipoense	1600	-	-	-	-
mastersianum	-	-	5	-	-
micranthum	2300	-	-	-	-
niveum	8364	9175	10 723	-	-
parishii	1030	10	3000	-	-
praestans	-	-	8	-	-
philippinense	901	-	-	-	-
primulinum	60	-	-	-	-
randsii	96	-	-	-	-
roebelinei	195	-	-	-	-
rothschildianum	16	2	2	-	-
sanderianum	504	-	-	-	-
spicerianum	-	4	1000	-	-
stonei	47	-	75	-	-
sublaeve	-	10	-	-	-
sukhakulii	1504	9060	1580	-	-
superbiens	30	-	-	-	-
thailandensis	6460	-	-	-	-
tonsum	10	-	5	-	-
urbanianum	80	-	-	-	-
venustum	-	221	1000	-	-
victoria-regina	-	-	36	-	-
villosum	25	150	700	-	-
violacea	15	-	-	-	-
wardii	100	-	15	-	-
TOTAL	106 121	73 587	52 300	209	43 318

* Plus 1 carton, 84 flasks and 1lb of live specimens

Source: Japanese CITES Annual Report data

Rhino Horn Trade Controls in East Asia

Tom Milliken, Esmond Bradley Martin and Kristin Nowell

At the sixth meeting of the Conference of the Parties to CITES in July 1987, the Parties passed Resolution Conf. 6.10 (Trade in Rhinoceros Products) in recognition of the crisis most rhino populations in Africa and Asia face from poaching for the illegal trade in their parts and derivatives, in particular their horn. The Resolution marked a departure from the purview of CITES, i.e., international trade, by urging Party states to enact and implement legal prohibitions on all forms of domestic trade in and use of rhinoceros parts and products.

Since then, Hong Kong and Macao have taken firm action to eliminate almost all domestic trade in rhino horn and hide, and Taiwan has taken concrete steps in the same direction. Unfortunately, authorities in another major trading centre - South Korea - are unwilling to instigate regulations to control that country's flourishing internal trade in rhino parts and products.

HONG KONG

Hong Kong's rhino horn trade policy, the most comprehensive in Asia, evolved over a number of years subsequent to the entry into force of CITES with the UK's accession to the treaty in 1976. In that year, possession licences were introduced for parts and derivatives of certain rhino species listed under the *Animal & Plants (Protection of Endangered Species) Ordinance*, Cap. 187. By late 1978, all rhino species were covered by the law, and a subsequent registration of all rhino horn and hide in the Territory was completed by the Department of Agriculture and Fisheries, Hong Kong's CITES Management Authority, by February 1979. At that time, all further importation, including so-called pre-Convention stock, was prohibited, but registered stocks were allowed to be exported under licence until 1 April 1986, or domestically traded to local consumers. Legal domestic trade ceased when further regulations pursuant to Hong Kong's law resulted in a prohibition on all internal sales of rhino horn and hide on 1 August 1988. At the same time, the requirement for possession licences was extended to cover all rhino carvings, antiques, and trophies in the Territory; as a result, a total of 93 possession licences were issued in 1988, all for antique carvings.

On 1 December 1989, further amendments to the *Animal & Plants (Protection of Endangered Species) Ordinance* took effect which prohibited the import, export, and domestic sale of traditional medicinal products that contain or purport to contain rhinoceros ingredients. This development effectively closed all avenues of trade for rhino parts, derivatives and products in Hong Kong. Most of these medicines are manufactured in China. (For a detailed appraisal of Hong Kong's policy see *The Evolution of Legal Controls on Rhinoceros Products in Hong Kong*, Tom Milliken, July 1990, a special report by TRAFFIC Japan recently circulated to the Parties by the CITES Secretariat.)

Year	No. pharmacies visited	No. (%) selling rhino horn	Average US$/kg
1979	15	11 (73)	11 103
1982	50	23 (46)	15 700
1985	80	33 (41)	14 282
1987	60	19 (32)	20 751
1990	65	3 (5)	16 240

Table 1. Average retail prices of rhino horn in Hong Kong for various years (1979-1990)
1979-1987 - mostly African rhino horn; 1990 - all African rhino horn
Surveys carried out by E.B. Martin

In March 1990, in order to ascertain the effectiveness of these bans, E.B. Martin oversaw a market survey of 65 retail medicine shops and a few wholesale establishments on Hong Kong island and Kowloon. Using a Chinese interpreter, who went alone into each pharmacy to request rhino horn and hide, it was found that only 5% of the establishments offered rhino horn, a significant decrease from a previous survey in 1987 which determined that rhino horn was offered in 32% of the pharmacies visited (Table 1). Martin found rhino hide in only 5% of the shops surveyed, suggesting that sales had virtually collapsed in comparison with a survey three years earlier when rhino hide was found to be available in 43% of pharmacies visited (Table 2). Dealers were clearly aware of the illegality of their continuing trade in rhino parts and products and stated that they would only sell clandestinely to well-known customers in need of potent medicines for lowering fever or curing skin diseases.

Year	No. pharmacies visited	No. (%) selling rhino hide	Average US$/kg
1985	80	31 (39)	403
1987	60	26 (43)	545
1990	65	3 (5)	570

Table 2. Average retail prices of rhino hide (South African) in Hong Kong for various years (1985-1990)
Surveys carried out by E.B. Martin

Martin's survey also found that retail prices for rhino horn had dropped by 20% since 1987, suggesting that there has been a significant decline in demand for rhino horn in Hong Kong. Apparently, sales have increased for rhino horn substitutes such as Saiga Antelope *Saiga tatarica* horn.

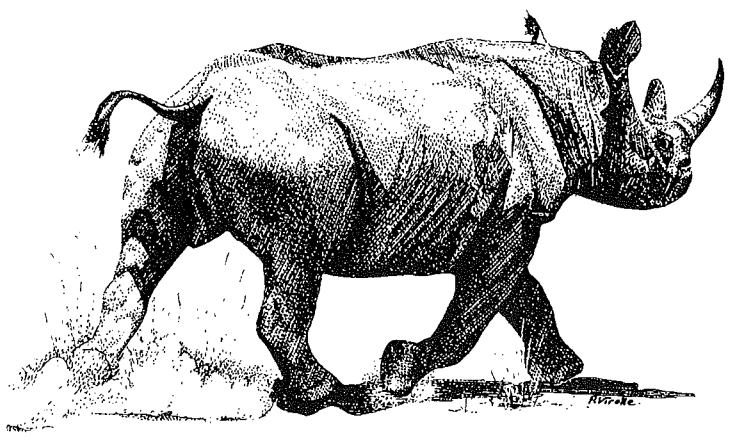
Although Hong Kong prohibited the export of rhino horn and hide in 1986, Martin found evidence that some dealers illegally exported horn to China before or just after the 1988 ban on internal trade. For example, one prominent trader in the Western District of Hong Kong island claimed that, in 1988, he had exchanged about 35 kg of African rhino horn for the equivalent value of ginseng *Panax*, abalone *Haliotis*, and other goods, with private businessmen in Guangzhou. The trader implied that he had personally carried the horn into Guangzhou, a violation of both Hong Kong and Chinese laws. Other Hong Kong traders stated that Chinese businessmen visited Hong Kong in 1989 and 1990 to buy African rhino horn for use in medicines in China.

However, according to Martin's survey, stocks of Asian rhino horn have not been sold to China because Chinese dealers cannot afford the higher priced horn of the Sumatran Rhinoceros *Dicerorhinus sumatrensis* and the Indian Rhinoceros *Rhinoceros unicornis*. Instead, some of these horns have been exported to Taiwan, where traders apparently pay the highest prices in the world for Asian horn. Traders in Hong Kong, and Taipei and Kaohsiung, in Taiwan, have all confirmed to Martin that rhino horn has been exported from Hong Kong to Taiwan in 1989 and 1990.

Although Martin did not survey the availability of patented medicines identifying rhino horn as an ingredient, preliminary evidence, resulting from spot checks carried out by WWF-Hong Kong at ten retail outlets in May 1990, suggests that Hong Kong's ban is working and that some manufacturers have modified their products to exclude rhino horn as an ingredient. In the WWF survey, two medicinal products were targetted, Dian Shi Ming Mu Wan and Da Huo Luo Dan, which have in the past claimed on the packaging to contain 3% and 4% rhino horn, respectively. While the former medicine was not found for sale at all, half of the shops stocked Da Huo Luo Dan, but rhino horn was no longer listed as an ingredient on the packaging.

Rhino horn has long been valued in Chinese medicines as an effective agent for the reduction of fever. Recent research, partially funded by WWF-Hong Kong, under the direction of Dr Paul Pui-hay But of the Chinese Medicinal Material Research Centre at The Chinese University of Hong Kong, has demonstrated the antipyretic effect of rhinoceros horn in experiments on fever-induced rats, but has also confirmed the efficacy of other animal horns, especially Saiga Antelope, as viable alternative substances. In the *Journal of Ethnopharmacology*, But *et al.* (1990) wrote: "...at 5 g/ml, rectal temperature was consistently lowered after both first and second injections in rats. Reduction of the dosage level to 2.5 and 1 g/ml continued to demonstrate significant antipyretic action...at 0.5 g/ml no antipyretic effect could be shown...Apparently, based on the results of this study, rhinoceros horn can reduce fever, but only at rather high dosage levels when prescribed as a single drug...Under the same experimental conditions, horn extracts of Saiga Antelope, Water Buffalo and cattle also demonstrated significant antipyretic action at the high dosage level of 5 g/ml. However, except for Saiga Antelope horn, actions of the other two animal horns at the lower dosage level of 1 g/ml were much weakened. This observation appears to support the claims of some herbalists that when using Water Buffalo horn as a substitute the dosage level must be increased by 10-fold". While But's important study validates Oriental medicinal claims that rhino horn has certain antipyretic properties, it nonetheless establishes that the substance is neither unique nor an indispensible ingredient in Chinese medicinal formulas. The fact that But's institution holds considerable credibility with local Oriental medicine practitioners should work well in establishing industry acceptance for the use of rhino horn alternatives. Earlier pronouncements by Western pharmaceutical corporations discrediting the efficacy of rhino horn have been viewed with suspicion by adherents of Oriental medicine throughout Asia.

Despite Hong Kong's prohibition, law enforcement efforts indicate that some illegal trade in rhino horn continues, presumably for lucrative export markets in China, Taiwan, and possibly South Korea. Between April 1986, when Hong Kong's legal exportation ended, and the end of 1988, a total of 111 kg of rhino horn was confiscated, including 59 pieces of African horn, weighing 57 kg, in transit from Dubai in February 1988. In February the following year, 18 horns of Black Rhino *Diceros bicornis* from South Africa, weighing 25 kg, were seized; subsequent prosecution of the Hong Kong importer led to conviction, including forfeiture of the horns and a fine of HK$3000 (US$385). In July 1989, three horns weighing five kg were confiscated upon entry to the Territory from the United Arab Emirates. And, in September 1989, 14 horns weighing 20 kg, in transit from Singapore to Macao, were seized, along with some 700 kg of elephant ivory; subsequent prosecution of two Chinese individuals ended in acquittal, but the seized goods were forfeited to the Government.



Black Rhinoceros *Diceros bicornis* ***© P. Virolle/WWF***

MACAO

Effectively a Party to the Convention since 1981, when Portugal joined CITES, Macao, a Portuguese territory situated on the coast of China, west of Hong Kong, has also taken measures to ban domestic trade of rhino parts and derivatives. In March 1988, the Director of Economic Services, Macao's CITES Management Authority, prohibited all internal sales of rhino parts and, according to Martin, there was no evidence of public display of rhino horn during a visit in April 1990. However, Martin did find rhino horn for sale in two shops (Table 3), after his Chinese interpreter insisted on obtaining the substance and successfully convinced the shopkeepers that Martin was not a Portuguese official, but rather a tourist. At most of the other establishments visited, shop personnel were rude when asked for rhino parts and indicated that it was well known that such trade was illegal in Macao. Although there have been no recent law enforcement actions in the Territory, it is worth noting that 14 rhino horns confiscated in Hong Kong in September 1989 were apparently destined for Macao.

Year	No. pharmacies visited	No. (%) selling rhino horn		Average US$/kg
1979	9	7	(78)	4127
1982	14	9	(64)	7797
1986	20	16	(80)	8644
1987	34	22	(65)	8407
1990	28	2	(7)	15 385

Table 3. Average retail prices of rhino horn (mostly African) in Macao for various years (1979-1990)
Survey scarried out by E.B. Martin

The change in the availability of rhino horn and hide in Macao between 1987 and 1990 has been remarkable. In 1987, 65% of the medicine shops featured rhino horn (see *TRAFFIC Bulletin*, 10(3/4):30), while three years later the percentage had dropped to 7% (Table 3). Martin learned that, apparently, large quantities of rhino horn were sold in 1988 to various customers from a number of East Asian countries. Similarly, the availability of rhino hide has dropped to 7% of the shops surveyed (Table 4); Martin has speculated that the specimens he examined were probably from the southern African White Rhinoceros *Ceratotherium simum.*

Year	No. pharmacies visited	No. (%) selling rhino hide		Average US$/kg
1982	14	4	(29)	360
1986	20	6	(30)	304
1987	34	18	(56)	212
1990	28	2	(7)	684

Table 4. Average retail prices of rhino hide (mostly South African) in Macao for various years (1982-1990)
Surveys carried out by E.B. Martin

TAIWAN

Although not recognised by the United Nations and therefore not eligible to accede to CITES, Government authorities in Taiwan have nonetheless introduced a number of measures to implement trade controls in compliance with the Convention. In particular, new legislation was introduced in June 1989 which established a comprehensive framework for trade in most CITES-listed species. Under the *Wildlife Conservation Law*, the Taiwan Government prohibited the import, export, trade, exchange or display with intent to sell, all protected species and their parts and products without express permission from the national authorities. Registration with local municipal or county authorities of all live protected species was required by law. In addition, registration of rhino horn and ivory was also mandated by the Council of Agriculture (COA), Taiwan's equivalent CITES Scientific Authority, in its announcement of the new requirements to the public. The registration period, initially set at three months following enactment of the *Wildlife Conservation Law*, was extended several times, finally to 30 November 1990.

While final returns are in the process of being compiled, almost complete data indicate that 386 companies and individuals registered a total of 1415 kg of horn and powder, clearly demonstrating that rhino horn usage is pervasive and widespread in Taiwan (Table 5). In the capital city of Taipei, 99 registrants claimed possession of a total of 439 kg of horn and powder, while in surrounding Taipei County another 126 kg were registered by 83 individuals or companies. In the southern port of Kaohsiung, Taiwan's second largest city, 195 kg of horn were registered by 16 registrants. These three administrative units accounted for over half of the registered quantity when compared to the stocks reported by 19 of the 20 other counties and municipalities in Taiwan. (As the registration of rhino hide was not specifically called for in the published order, no data are available at this time.)

It is unlikely that all rhino horn stocks on the island were registered; the *Wildlife Conservation Law* does not penalise failure to do so. It is also unlikely that the majority of the rhino horn found throughout Taiwan was lawfully acquired. Import of rhino horn was prohibited by the Board of Foreign Trade, the CITES equivalent Management Authority, in May 1985. From 1983 until the import ban, Taiwan Customs data indicate that a total of 280 kg were imported from South Africa, Hong Kong, and Singapore. Traders, however, have openly admitted (Martin and Martin, 1990; Nowell, unpubl.) that rhino horn was - and continues to be - smuggled in by air and sea, including on private fishing vessels.

Taiwan has also instigated early moves to regulate the use of rhino horn in manufactured medicinal products. In 1986, the National Health Administration (NHA) directed the manufacturers of traditional medicines to register their stocks of horn in order to continue to qualify for export. According to the NHA's Bureau of Drug Control, no companies have registered for a licence to manufacture such medicines.

District	No. of registrants	Vol. (kg)
Changhwa County	40	86.30
Chiayi City	14	72.45
Chiayi County	47	110.51
Hsinchu City	1	12.30
Hsinchu County	3	120.11
Hualien County	1	2.20
Ilan County	17	31.34
Kaohsiung City	16	195.00
Kaohsiung County	13	27.72
Keelung City	10	12.20
Miaoli County	5	24.01
Nantou County	3	4.00
Penghu County	0	-
Pingtung County	2	3 horns
Taichung City*	*	*
Taichung County	15	63.20
Tainan City	2	5.40
Tainan County	6	56.80
Taipei City	99	439.00
Taipei County	83	125.65
Taitung County	0	-
Taoyuan County	4	6.75
Yunlin County	5	20.26
Total	386	1 415.20 +

Table 5. Registration of rhino horn in Taiwan, 30 November 1990
* data pending
Source: Bureau of Agriculture and Forestry, Taiwan Municipal Government Division of Natural Resources, Council of Agriculture

In fact, rhino parts are primarily marketed in unprocessed form through traditional medicine clinics. Domestic trade in rhino horn is technically illegal under the *Wildlife Conservation Law*, but no law enforcement action is currently being taken against traders, in anticipation of COA's imminent announcement of special measures to regulate the domestic market. However, at a meeting with Chinese pharmaceutical association representatives and conservationists in February 1990, COA suggested that all future domestic trade would be banned following a period of three years and that during this time sales of rhino parts would be limited to registered stocks.

Despite these positive developments, the smuggling of rhino parts has continued throughout 1990. In July, Taiwanese Customs confiscated nine rhino horns in a contraband shipment of ivory seals and tusks believed to have originated in Zambia but shipped via Hong Kong. In September, three Taiwanese nationals were arrested in South Africa with a total of 110 rhino horns in their possession; an additional 40 horns reportedly had already been sent to Taiwan (Anon., 1990). And, in December 1990, another 28 kg of rhino horn was discovered by Customs in a wooden crate shipped from Zambia. The COA staged a public burning of recently confiscated rhino horn and other wildlife products on 30 January 1991 (see page 1); similar burnings took place on 21 May and 27 November 1990.

At present, it is not clear whether Taiwanese traders are purchasing rhino horn primarily for domestic consumption or for smuggling to other Asian markets. Taiwanese consumers are certainly paying some of the highest prices in the world. In April 1990, Martin and Martin found African horn selling in Taipei for US$4221 a kg and Asian horn for US$54 040 a kg retail (Table 6). Spot checks of African rhino horn prices conducted by K. Nowell in September 1990 found that the wholesale price varied depending on the quantity purchased: US$2519 a kg for a whole horn; US$3704 a kg for half a horn; and US$4938 a kg for the tip cut, widely regarded as "the best part". During further surveys in March 1991 (Nowell, *in litt.*) three Taipei wholesalers quoted a mean price for Asian rhino horn of US$60 025 a kg.

Year	Place	No. pharmacies visited	No.(%) selling horn	Type of horn	Average US$/kg
1979	Taipei	9	9(100)	AF	1596
				AS	17 090
1985	Taipei	34	26(76)	AF	1532
				AS	23 929
1988	Taipei	60	44(73)	AF	4660
				AS	40 558
1990	Taipei	79	40(51)	AF	4221
				AS	54 040
1985	Kaohsiung	20	18(90)	AF	2007
				AS	21 365
1988	Kaohsiung	15	13(87)	AF	3347
				AS	42 880
1990	Kaohsiung	14	7(50)	AF	3737
				AS	40 404

Table 6. Average retail prices for rhino horn in Taiwan for various years (1979-1990) AF=African; AS=Asian
Source: Martin and Martin, 1991

SOUTH KOREA

South Korea, another non-Party to CITES, also remains a major destination for rhino horn in East Asia. A late 1988 market survey of Oriental medicine clinics in Seoul, the nation's capital, by TRAFFIC Japan researchers produced dramatically different results from Martin's earlier study on the extent of rhino horn availability. In the TRAFFIC survey, 86% of the retail outlets visited offered rhino horn or rhino horn products as opposed to 51% in Martin's survey 18 months earlier (Table 7) (see *TRAFFIC Bulletin*, 8(2):28). In fact, TRAFFIC's survey revealed the highest-ever recorded level of rhino horn availability in Seoul.

At the same time, the price of rhino horn was found to have increased by almost three times, to US$4410 a kg, since 1986 (Table 7). In addition to Chung Shim Won, South Korea's most popular rhino horn prescription,

Year	No. pharmacies visited	No. (%) selling rhino horn		Average US$/kg
1980	30	19	(63)	1436
1982	76	47	(62)	1797
1986	108	55	(51)	1771
1988	59	51	(86)	4410

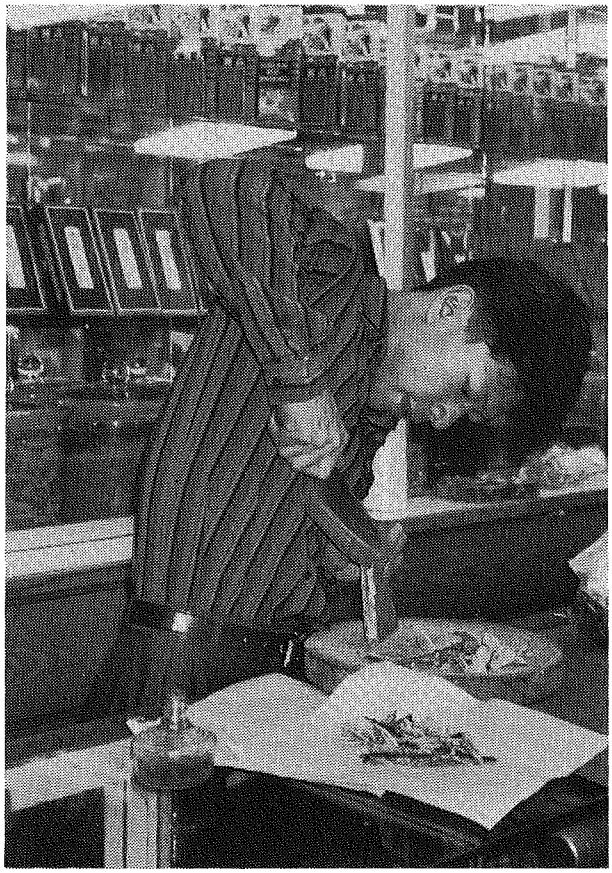
Table 7. Comparison of number of Oriental medicine clinics selling rhino horn including derivatives, in Seoul,South Korea, for various years (1980-1988)
Sources: 1980-1986 - E.B. Martin; 1988 - TRAFFIC Japan

TRAFFIC's review of the country's traditional medicine literature identified 15 other medicinal compounds which include rhino horn as an ingredient.

A series of legal measures have restricted rhino horn trade in South Korea, including the prohibition of rhino horn as an ingredient in manufactured medicines in November 1983, and a total import ban since 28 June 1986. However, Korean authorities have never conducted a registration of existing stocks and have not legally prohibited the internal sale of rhino horn in the hundreds of retail outlets throughout the country. While official trade statistics indicate that no rhino horn has been imported since the ban came into effect, under present circumstances the dispensation of smuggled horn would be virtually impossible to detect in the market place.

The results of TRAFFIC's survey (Song and Milliken, 1990) were presented at a press conference in Seoul in April 1990 following discussions with Government officials. Although the Ministry of Health and Social Affairs (MHSA) immediately sent an official letter to six national Oriental medicine associations calling attention to the fact that rhino horn "smuggling is still prevailing" and urging doctors to refrain from using the substance as an ingredient in prescribed medicines, the MHSA has no intention of instituting a general registration under the country's *Pharmaceutical Law* and monitoring future dispensation as authorities in Hong Kong and Taiwan have done.

The stance of the MHSA is regrettable in view of the favourable developments elsewhere in Asia, and it appears that TRAFFIC's recommendations for domestic control on rhino horn trade will be ignored for the time being. Although South Korean authorities have stated for at least the last five years that the country intends to join CITES, it remains to be seen when this development will actually occur. In the meantime, South Korea is bound to remain a major consumer of rhino horn and it is possible that as controls tighten in Taiwan and other countries in the region, there will be an upsurge in illegal trade to the lucrative Korean market.



A pharmacist cuts a piece of rhino skin in a traditional Chinese medicine shop **© WWF/E.B. Martin**

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LEGISLATION UPDATE

AFRICA - *IVORY AND RHINO HORN*

Poachers in Swaziland are to face tough new legislation which lays down a minimum sentence of five years in gaol, without the option of a fine. The law stipulates that people found guilty of trading in elephant or rhino products will face gaol terms of between seven and 15 years, without the option of a fine.

Namibia has increased the maximum penalty for rhino and elephant poaching to 20 years in prison or a R200 000 (US$80 000) fine, or both. In terms of the Nature Conservation General Amendment Bill adopted in the National Assembly in Windhoek, those convicted of poaching or trading illegally in other protected game products face a maximum six years imprisonment or a R20 000 fine.

The Province of Natal in South Africa has amended the Provincial Government Act, 1974 (Ordinance No. 15) to impose stricter penalties for the poaching of rhino and elephant or illegal trade in related products. Proclamation No. 70, issued on 14 December 1990, declares an increase in fines for such offences to a maximum of R100 000 or imprisonment for up to ten years, or both.

Argus (South Africa), 15 November/1 December 1990; Cape Times (South Africa), 27 November 1990; The Official Gazette of the Province of Natal, 10 January 1991

FIJI - *RAW TURTLE SHELL*

On 25 October 1990 the Fijian Cabinet approved amendments to the *Fisheries Act 1942* to prohibit the export of raw turtle Cheloniidae shell, the selling of turtles during the months of January to February and November to December, and the selling of turtle eggs or undersized turtles at any time.

These amendments, which came into force on 1 January 1991, are additional to existing protective measures for turtles which prohibit the export of their flesh (meat) and impose restrictions on hunting and domestic utilisation. The Cabinet also endorsed research working towards a total ban on exploitation of turtles (other than ceremonial indigenous use), and means for more effective protection of nesting beaches and the breeding population.

TRAFFIC Oceania

HONG KONG - *SNAKES*

In order to comply with CITES, the Hong Kong Government, on 21 December 1990, implemented trade controls for three species of snakes which are listed in CITES Appendix II.

Traders must now apply for an import license from the Agriculture and Fisheries Department and obtain a legal export permit from the country of origin in order to import Asiatic Rat Snake *Ptyas mucosus*, Indian Cobra *Naja naja* and King Cobra *Ophiophagus hannah*. Until applications for such licences are granted, the immediate effect of these controls has been a 40% drop in the supply of snakes to Hong Kong and a price rise of 20%.

New Evening Post (Hong Kong), 29 December 1990

Psittaciformes Quotas for Argentina

On 31 January 1991, the Management Authority of Argentina communicated to the CITES Secretariat the quotas granted for the export of parrots for the period of 1 January to 31 December 1991 (Resolución No. 142/91).

The species subject to quotas are as follows:

Blue-fronted Amazon *Amazona aestiva*	23 000
Blue-crowned Conure *Aratinga acuticaudata*	15 000
White-eyed Conure *Aratinga leucophthalmus*	3000
Mitred Conure *Aratinga mitrata*	7000
Nanday Conure *Nandayus nenday*	14 000
Scaly-headed Parrot *Pionus maximiliani*	7300
Maroon-bellied Conure *Pyrrhura frontalis*	2250
Green-cheeked Conure *Pyrrhura molinae*	2250

The following species are subject to a zero quota:

Peach-fronted Conure *Aratinga aurea*
Yellow-collared Macaw *Ara auricollis*
Green-winged Macaw *Ara chloroptera*
Mountain Parakeet *Bolborhynchus aurifrons*
Sierra Parakeet *Bolborhynchus aymara*
Canary-winged Parakeet *Brotogeris versicolorus*
Austral Conure *Enicognathus ferrugineus*
Blue-winged Parrotlet *Forpus xanthopterygius*

The species which may be exported without limitation in numbers are:

Monk Parakeet *Myiopsitta monachus*
Patagonian Conure *Cyanoliseus patagonus*

CITES Secretariat Notification to the Parties No. 626, 8 April 1991

PAPUA NEW GUINEA - *WILD-COLLECTED ORCHIDS*

The Department of Environment and Conservation of Papua New Guinea has implemented a ban on the export of wild-collected orchids, effective from September 1990. This is a consequence of increasing interest in the acquisition and cultivation of Papua New Guinean orchids by collectors, and the lack of knowledge about the impact of the trade on wild populations.

Scientific institutions recognised by the Government of Papua New Guinea may be granted export authorisations, but only in compliance with certain provisions laid down by the above-mentioned Department.

Whilst the ban is in force, the Department will find means to improve export conditions and promote the industry of artificially propagated orchids in the country.

TRAFFIC Oceania; CITES Secretariat Notification to the Parties No. 629, 8 April 1991

SEYCHELLES - *TURTLES*

The Seychelles Ministry of Agriculture and Fisheries has banned the catching of Green and Hawksbill Turtles *Chelonia mydas* and *Eretmochelys imbricata* because the number of Hawksbills is declining throughout the archipelago and the Green Turtle is virtually extinct in the granitic islands (Mahe, Praslin and La Digue) and the Amirantes group, with only a few remaining around the coralline islands. Traditionally fishermen have been permitted to take a limited number for personal consumption but permits have been abused. The ban will stay in force while the permit system is revised.

Oryx (25) 1991

SOLOMON ISLANDS - *TURTLES AND COCKATOOS*

With effect from August 1990, the exploitation of turtles has been banned for a period of five years and the exploitation of crocodiles prohibited for a period of ten years in Temotu Province in the Solomon Islands. This ban has been effected under *The Temotu Province Environmental Protection Ordinance.*

The Ministry of Natural Resources has approved export quotas for Ducorps' Cockatoo *Cacatua ducorpsii* and Cardinal Lory *Chalcopsitta cardinalis.* These quotas have been set at 200 birds of each species per exporter per year, and became effective on 3 July 1990.

The decision to open up the bird trade was made whilst Cabinet was considering a report which makes recommendations against such action. The *Survey of Wildlife Management in Solomon Islands,* a joint project report funded by TRAFFIC Oceania and South Pacific Regional Environment Programme (SPREP), surveyed wildlife management needs in the country and recommends that "legislation be immediately implemented to prohibit this [parrot export] trade until survey work has been conducted to determine population sizes and dynamics".

TRAFFIC Oceania

Bird Quotas for Nicaragua

Nicaragua has set the following bird quotas for 1991:

Yellow-headed Amazon *Amazona auropalliata*	650
Red-lored Amazon *Amazona autumnalis*	1400
White-fronted Amazon *Amazona albifrons*	1900
Mealy Amazon *Amazona farinosa*	1400
White-capped Parrot *Pionus senilis*	650

Species which may be exported without limitation in numbers are:

Keel-billed Toucan *Ramphastos sulfuratus*
Orange-chinned Parakeet *Brotogeris jugularis*
Orange-fronted Conure *Aratinga canicularis*

CITES Secretariat

Ramphastos sp.

Japan Withdraws Reservations on Sea Turtles and Monitor Lizards

Japan has announced its intention to drop its reservation on the Olive Ridley Turtle *Lepidochelys olivacea* (CITES Appendix I). As a preliminary measure to end any further trade before the reservation is officially dropped later this year, all importation of Olive Ridley Turtle skins became subject to an import quota on 30 April 1991, and the current quota was set at zero, effectively ending all further trade.

Japan also has announced its commitment to end all trade in the shell of Hawksbill Turtle *Eretmochelys imbricata* (CITES Appendix I) on 31 December 1992 and will drop its reservation on the species in July 1994. In the interim period between 1 August 1991 and 31 December 1992, Japanese dealers are allowed to import up to 7.5 tonnes of tortoiseshell (or "bekko"), subject to the condition that all transactions are direct from the country of origin and carry a legally-issued export permit from the relevant competent authority in that country; the authenticity of all such documentation will be independently checked with the issuing authorities by Japan's CITES Management Authority, the Ministry of International Trade and Industry (MITI), before being accepted for importation. Once the 7.5 tonnes limit is reached or the year 1992 ends, Japan will impose a zero import quota, which will remain in effect until the reservation is dropped.

The period between January 1993 and July 1994, when no importation will be allowed but the reservation will remain in effect, is reportedly necessary for three reasons: to allow domestic dealers time to dispose of their existing stocks; to allow MITI to pursue their commitment to research and develop appropriate substitutes; and to allow the Japanese Government to conduct surveys of Hawksbill Turtle resources in order to dispel assertions within the industry that the current decision is not scientifically warranted.

In conjunction with this effort, Japan or other CITES Parties are likely to submit downlisting proposals for specific Hawksbill Turtle populations at the ninth meeting of the Conference of the Parties to CITES. If any such proposals are accepted, Japan will drop the reservation and only resume trade within the established CITES framework. Alternatively, if all such proposals are rejected by the Parties, the Japanese Government will still drop the reservation, having provided a scientific airing on the status of the species for the benefit of the local industry.

Japan's continuing trade in sea turtles prompted the US Government to threaten sanctions against Japan under the *Pelly Amendment* to the *Fisherman's Protective Act* of 1967, which allows the USA to embargo wildlife products from any country found to be "directly or indirectly engaging in trade which diminishes the effectiveness of international programs for endangered or threatened species". The certification of Japan for its continuing sea turtle trade marks the first time that the *Pelly Amendment* has been used for a CITES trade issue. Eight countries - Chile, Japan, Korea, Norway, Peru, the Soviet Union and Taiwan - have been certified under the *Pelly Amendment* for continuing whaling practices. Trade sanctions, however, have never been imposed on a country.

With effect from 7 June 1991, the Government of Japan has established an import quota system and set a zero quota for the Bengal Monitor *Varanus bengalensis* and the Yellow Monitor *V. flavescens*, as a prelude to dropping the reservations on those species later this year.

These measures effectively establish a framework for the elimination of four of Japan's ten reservations on Appendix I species. All remaining reservations concern great whale species and fall under the auspices of Japan's Fisheries Agency.

TRAFFIC Japan; TRAFFIC USA; Ministry of International Trade and Industry (Japan) Press Release, 17 May 1991

The following specific CITES Appendices I and II reservations have entered into effect in 1991

Species	Appendix listing	Country	Entered/ Withdrawn	Date of effect
African Elephant				
Loxodonta africana	I	China	Withdrawn	11 January 1991
"		Namibia	Entered	18 March 1991
Grey Parrot				
Psittacus erithacus	II	Liechtenstein	Withdrawn	28 February 1991
"		Switzerland	"	"
Water Monitor				
Varanus salvator	II	Thailand	Withdrawn	11 March 1991
Cheetah				

Assistance in investigations was provided to authorities by TRAFFIC staff in most of the cases reported below which occurred in regions covered by a TRAFFIC office.

EUROPE

BELGIUM

On 27 December 1990, Belgian authorities seized the following specimens on sale at a reptile shop in Antwerp: 178 Hermann's Tortoises *Testudo hermanni* and 91 Spur-thighed Tortoises *T. graeca*, two Short-tailed Pythons *Python curtus*, three Rock Pythons *Morelia amethistina*, two specimens of *M. mackloti fusca*, three Cuban Tree Boas *Epicrates angulifer* and ten Black Spiny-tailed Lizards *Uromastyx acanthinurus*. A number of dead specimens, stored in a deep freeze, were also seized and included: 19 Spur-thighed Tortoises, two Hermann's Tortoises, one Margined Tortoise *Testudo marginata*,, one Nile Monitor *Varanus niloticus*, one Black Spiny-tailed Lizard, two *Chamaeleo hoehnelli*, one Common Chameleon *C. chamaeleon*, five Senegal Chameleons *C. senegalensis*, one Anaconda *Eunectes murinus* and one *Boa* sp.

The owner of the shop, Wim Janssens, a Dutchman, has been charged with violating EC-CITES regulations (sale of C1 species; lack of CITES certificates for certain Appendix II and II/C2 species). The case has yet to come to court.

Janssens was previously involved in the illegal importation of Madagascan Boas *Acrantophis madagascariensis* and Gold-dust Day Geckoes *Phelsuma laticaudata* from Madagascar in 1988 (see *TRAFFIC Bulletin* 10(1/2):9).

A further 98 Hermann's Tortoises, believed to have originated in Morocco, were also recently confiscated from the house of a person believed to be a courier for certain dealers, and who has repeatedly been arrested in France and Spain following attempts to smuggle North African CITES-listed reptiles from Morocco to western Europe.

Between November 1990 and May 1991, a total of 212 parrots and one live Ocelot *Felis pardalis* were confiscated by Belgian officials. The animals had reportedly been smuggled to Belgium on board ships belonging to a Yugoslavian company travelling from Colombia. The birds included five Buffon's Macaws *Ara ambigua*, nine Scarlet Macaws *A. macao* (both listed in CITES Appendix I), 23 Blue-and-Yellow Macaws *A. ararauna*, five Red-and-green Macaws *A. chloroptera*, four Chestnut-fronted Macaws *A. severa* and 167 Amazon parrots of different species. A further 15 Amazons and 17 Macaws were confiscated, but remain on the premises of the Belgian dealer who was involved in the import of the birds. The dealer, Mr Leys, was caught with ten Appendix I-listed Macaws in his car; further searches uncovered a number of dead parrots. Investigations are continuing.

In May 1991, 23 parrots were seized in Lisbon, Portugal, from the captain of one of the Yugoslavian ships implicated in the above case. These birds included two Scarlet Macaws, four Blue-and-Yellow Macaws, two Black-headed Caiques *Pionites melanocephala*, and specimens of Yellow-crowned Amazons *Amazona ochrocephala* and Orange-winged Amazons *A. amazonica*.

NETHERLANDS

On 12 October 1990, J.M. Wubben, a Dutch national, was convicted on charges under the *Import and Export Decree on Endangered Exotic Animal and Plant Species*.

In February 1987, together with three accomplices, Wubben had been stopped by Customs at Schiphol airport on his return from Venezuela, and found to have 2500 orchids in his hand luggage; most of the specimens had been wild-collected and had an estimated value of Dfl.30 000-Dfl.45 000 (US$20 000-US$25 000).

Wubben claimed ownership of the plants and was fined Dfl.2500. When he appealed to a higher court his fine was doubled. The orchids were confiscated.

On 23 July 1990, a total of 500 Horsfield's Tortoises *Testudo horsfieldii* were seized by the General Inspection Service at Schiphol airport. The shipment, which was in transit from Poland to Hong Kong, had originated in the Soviet Union. The tortoises had been stacked seven layers deep and the specimens on the bottom layers had been crushed and were already in a state of decay. The surviving animals were housed in a rescue centre.

The General Inspection Service recently intercepted two shipments of animals from Togo, both destined for Japan. The first shipment, which left Togo on 14 September 1990, was discovered three days later at Schiphol airport by KLM staff, the airline transporting the animals. Most of the cargo had perished.

The shipment contained hundreds of specimens belonging to three species of freshwater turtles, all of which were listed as *Pelusios* spp. Also in the shipment were: 20 Spurred Tortoises *Geochelone sulcata*; two Potto *Perodicticus potto*; 22 Home's Hinged Tortoises *Kinixys homeana*; two Tree Pangolins *Manis tricuspis*; 25 Four-toed Hedgehogs *Erinaceus albiventris*; 15 Lesser Bushbabies *Galago senegalensis*; two Genet Cats *Genetta tigrina* and one mongoose *Herpestes* sp.

The second shipment, seized on 26 January 1991, contained 40 Spurred Tortoises. Accompanying documentation stating that the specimens were captive-bred was considered doubtful owing to the varying sizes of the specimens.

On 18 July 1990, a box arriving from South Africa attracted the attention of the General Inspection Service. Inside, a number of snakes were found arranged in three layers, the first of which contained a Puff Adder *Bitis arietans*, accompanied by a note which warned: "Next layer. Beware most poisonous cobras in Africa. Dead within 20 minutes. Very aggressive and bite through the bags. These ones are particularly nasty". Indeed, 13 extremely poisonous non-CITES snakes were contained in separate bags. In the third layer, 30 Giant Girdled Lizards *Cordylus giganteus* (CITES Appendix II) were found. The lizards were to be shipped illegally to Sweden.

On 6 February 1991, the General Inspection Service seized an enormous number of feathers, heads, wings and skins of 40 species of birds and skins of the Western Black and White Colobus *Colobus polykomos*. Whilst most of the material dated back to the beginning of the century, the 44 Colobus had been taken from specimens killed less than five years earlier. Also relatively fresh were 20 000 tail feathers from over 10 000 Sand Grouse *Syrrhaptes paradoxus*. This bird is said to be hunted and eaten in Mongolia and the feathers could have been a by-product. Also included in the shipment were thousands of skins of the south-Chinese subspecies of the White-breasted Kingfisher *Halcyon smyrnensis*, reportedly traded in large numbers within China.

UK

On 10 June 1991, at Uxbridge Magistrates Court, Mr Jacques Amand, a specialist bulb nurseryman from Clamp Hill in Middlesex, was convicted on two charges under the Customs and Excise Management Act of smuggling plants.

The convictions concerned the importation of 853 orchids and 475 woodland plants from the USA. The orchids, for the greater part North American Slipper Orchids *Cypripedium*, were imported in contravention of CITES. The plants were found in Amand's hand luggage by Customs officers at Heathrow airport, on 14 November 1990. Amand pleaded guilty and was fined a total of £200 (US$320) and ordered to pay costs of £50.

TRAFFIC Europe; TRAFFIC Europe Netherlands Office; TRAFFIC International

AFRICA

NAMIBIA

On 12 December 1990, at Windhoek High Court, Mr Hamanga Erickson was sentenced to five years imprisonment for illegally dealing in elephant ivory. Police confiscated 22 tusks, weighing 170 kg, on 28 May 1990, which had been smuggled from Angola.

SOUTH AFRICA

On 12 September 1990, in Johannesburg, Tshwbawba Kandolo of Zaire was charged with the illegal importation of two rhino horns and items of worked ivory. One of the horns was just five centimetres short of the world record length, at 1.15m and weighing 12.5kg.

Kandolo was intercepted at Jan Smuts airport in June after Customs officers spotted a conspicuously large suitcase in his possession containing the goods. He was arrested by Transvaal Nature Conservation officers.

The defendant was fined R20 000 (US$8000) which is the highest fine hitherto imposed in South Africa for such an offence. The total estimated value of the horns was R25 000-R40 000.

continued ...

TANZANIA

A haul of 319 ivory tusks, weighing 1152 kg, was seized on 23 December 1990 from a farm in Dar Es Salaam, whose owner is believed to have permitted smugglers to hide contraband on his property. A businessman has been arrested in connection with the incident.

This stock is believed to be the source of 68 tusks intercepted in Dar Es Salaam on 15 December whilst awaiting shipment to Dubai in the United Arab Emirates. Two South Koreans and two Tanzanians have been charged with illegal possession of the ivory, which was impounded by the police.

ZAMBIA

Twenty-one Chinese Government officials visiting Zambia were recently caught trying to leave the country with poached Zambian ivory and an undisclosed number of rhino horns in their possession. When their bags were examined, ivory artefacts, which included chopsticks and bangles, were found hidden under wooden chopsticks.

Times (Namibia), 13 December 1990;
CITES Secretariat Press Release, 13 September 1990; Daily News (Tanzania), 25/27 December 1990
New African (Zambia), March 1991

SOUTH EAST ASIA

HONG KONG

An orchid smuggler received a six-month gaol sentence in June 1991 for trading in slipper orchids.

Hsu She-hua was convicted for the third time for illegal possession of the plants which had been wild-collected in southern China and smuggled into the colony.

A total of 2269 specimens were found in his apartment in 1990.

JAPAN

On 1 April 1991, 62 elephant tusks weighing 869 kg were confiscated from a Filipino fishing vessel which was heading for an undisclosed destination on one of Japan's main islands. This is the first case of raw ivory smuggling since Japan banned ivory imports in September 1989, and involves a new *modus operandi* and a new trade route. All previous ivory smuggling attempts have involved manufactured name seals and have not been linked to any members of any of the five associations involved in the Japanese ivory trade industry. However, since this case involves raw ivory, there is little doubt that it was destined to be manufactured into products in Japan. Two Filipinos, two Japanese and two Koreans have been arrested in connection with the incident.

In a separate incident, a Japanese fish dealer was arrested on 30 August 1990 for attempting to smuggle 3000 pieces of ivory, weighing 77 kg, from Hong Kong to Japan. The ivory was concealed in ten boxes of fish that arrived at New Tokyo International airport.

SINGAPORE

A bird shop owner from Singapore has been fined S$2000 (US$1115) for illegally exporting 20 Eclectus Parrots *Eclectus roratus* (CITES Appendix II) without a permit.

Koh Hong Wah concealed the birds in the bottom-layer of a two-tiered box which was carrying ten Writhed Hornbills *Aceros leucocephalus* from Singapore to Italy. The birds were confiscated on 14 August 1990, whilst in transit at Zaventum airport, Belgium.

On 12 December 1990, another bird shop owner, Lee Kim Bock, was fined S$1500 for attempting to export 16 live baby crocodiles Crocodilidae to Thailand from Changi airport.

New Scientist (UK), 8 June 1991;
TRAFFIC Japan;
TRAFFIC Europe; Straits Times (Singapore), 27 December 1990

OCEANIA

AUSTRALIA
FEDERAL

On 15 June 1990, at Perth Magistrates Court, John Leleu of New South Wales was convicted on a charge under the *Wildlife Protection (Regulation of Exports & Imports) Act 1982* of attempting to export native fauna without a permit. Leleu had been apprehended at Perth International airport on 25 May 1990 attempting to board a flight to the Netherlands with three very young birds (allegedly 3-4 day old chicks) in his possession. The birds were later identified as black cockatoos *Calyptorhynchus* spp. Leleu was fined A$1500 (US$765) on the wildlife charge, and was also fined A$500 on a charge, under the *Banking & Foreign Currency Regulations*, of carrying excess currency. Leleu was ordered to pay court costs of A$192, and his airline ticket and A$3000 excess currency were forfeited.

On 7 September 1990, the Australian Customs Service seized 17 tonnes of giant clam Tridacnidae shells from a bonded warehouse in Sydney. The shells are believed to have been imported in 1986 from Tonga. The existence of the shells only came to notice when the owner of the bonded warehouse advertised them for sale, after the original importer and owner of the shells went into liquidation.

On 13 September 1990, the Australian Customs Service issued a notice of seizure to a Melbourne shop, for 11 fountain pens covered in python Boidae sp. skin. The pens, retailing at A$400 (US$306) each, were imported from Indonesia. No charges are expected to be laid.

On 26 October 1990, at Sydney District Court, Hans Ottersbach of Germany was convicted, on a charge under the *Wildlife Protection (Regulation of Exports & Imports) Act*, of attempting to export 26 Australian native birds. He was sentenced to three years' imprisonment. Ottersbach had been arrested on 31 October 1989, at Sydney airport, when he attempted to export two suitcases containing one Yellow-tailed Black Cockatoo *Calyptorhynchus funereus*, eight Gang-Gang Cockatoos *Callocephalon fimbriatum*, 11 Major Mitchell's Cockatoos *Cacatua leadbeateri* and six Long-billed Corellas *C. tenuirostris*.

On 26 October 1990, two Dutch citizens, Eelco Bouwman and Johannes Gerritsen, were convicted in Cairns Magistrates Court under State and Federal legislation on charges involving illegal possession and attempted export of protected native fauna. Bouwman was charged under the *Wildlife Protection Act*, of attempted illegal export of Australian native fauna and Schedule 2 fauna (skulls and heads of Dollarbird *Eurystomus orientalis*, Bandicoot Peramelidae spp., Stone Curlew *Burhinus magnirostris*, Pheasant Coucal *Centropus phasianius*, Little Eagle *Hieraaetus morphnoides*, Wedge-tailed Eagle *Aquila audax*, Brown Falcon *Falco berigora*, and Swift Parrot *Lathamus discolor*. Gerritsen was charged with aiding and abetting Bouwman in those offences. Both men were also charged under Queensland State law (*Fauna Conservation Act*) of illegally keeping and moving protected fauna (heads, skulls and bodies of kangaroos and flying foxes). They were each fined A$5836.75 (US$4470) including court costs.

On 11 December 1990, Patrick Bradley-Meerwald was convicted at Perth Magistrates Court on charges under the *Quarantine Act 1908*, relating to illegal importation of birds, and the *Customs Act 1901* (making a false declaration).

Bradley-Meerwald had been apprehended at Perth airport on 24 December 1989 whilst trying to import five Peking Robins *Leiothrix lutea*, six Purple Grenadiers *Uraeginthus ianthinogaster* and two Pin-tailed Whydahs *Vidua macroura* concealed in his hand baggage. He was fined AU$2500 (US$1915) and ordered to pay court costs of AU$84.

STATE

Recent convictions carried out under the *Territory Parks & Wildlife Conservation Act* of the Northern Territory:

4 July 1990. Jonathan Thomas, at Darwin Magistrates Court, charged with keeping protected wildlife (one Olive Python *Liasis olivaceus)* without a permit. Placed on a AU$100 (US$75) good behaviour bond for three months.

20 July 1990. Robert Coward and Robert Schell, at Darwin Magistrates Court, charged with being in possession of native wildlife (four Olive Pythons, two Children's Pythons *Liasis childreni* and one Black-headed Python *Aspidites melanocephalus*) without a permit. Each fined AU$500 (US$380).

20 July 1990. Trevor Sullivan, at Darwin Magistrates Court, charged with keeping and trading protected wildlife (two Olive Pythons) without a permit. Fined AU$300 (US$230).

Sullivan appeared in court again on 11 September 1990, this time at Katherine Magistrates Court, charged with importing protected wildlife (two Carpet Pythons *Morelia spilota variegata*) from Queensland without a permit. Fined AU$800. (Sullivan's mother, Robyn, was subsequently prosecuted in Queensland for illegally sending the snakes interstate - see under Queensland convictions.)

9 November 1990. Janette Howard, at Darwin Magistrates Court, charged with being in possession of protected wildlife (one Children's Python) without a permit. Fined AU$100 (US$75).

28 February 1991. Grant Stevens, at Alice Springs Magistrates Court, charged with taking and keeping protected wildlife (one Carpet Python and one Olive Python) without a permit. No conviction recorded. Fined AU$100 (US$75) for each animal. Placed on a six months' good behaviour bond.

18 March 1991. Peter Ellis, at Alice Springs Magistrates Court, charged with being in possession of native wildlife (two Children's Pythons and one Central Australian Carpet Python *Morelia bredli)* without a permit. Fined AU$600 (US$460).

Recent convictions carried out under the *Fauna Conservation Act* of Queensland:

20 August 1990. John Kreuger, at Townsville Magistrates Court, charged with illegally keeping protected fauna (skins or carcasses of 18 Saltwater Crocodiles *Crocodylus porosus*, two Freshwater Crocodiles *C. johnstoni*, one Wedge-tailed Eagle *Aquila audax*, one Masked Owl *Tyto novaehollandiae* and two Carpet Pythons). Articles were confiscated and destroyed. Fined A$1000 (US$760) and royalties of A$780.

13 September 1990. John Azzopardi, at Inala Magistrates Court, charged with taking and keeping five Rainbow Lorikeets *Trichoglossus haematodus*, five Galahs and one Sulphur-crested Cockatoo *Cacatua galerita*. The birds were forfeited and returned to the wild. Fined AU$500 (US$380), plus AU$93.50 court costs, and royalties of AU$480.

17 January 1991. Robyn Sullivan, at Bundaberg Magistrates Court, charged with keeping and moving two Carpet Pythons without a permit. Fined AU$150 (US$115), plus AU$93.50 court costs.

22 January 1991. Peter Schafer, at Monto Magistrates Court, charged with taking and keeping nine Pale-headed Rosellas *Platycercus adscitus*, five Red-winged Parrots *Aprosmictus erythropterus* and one Dove Columbidae sp. The birds were seized and returned to the wild. Fined AU$200 (US$153), plus AU$93.50 court costs, and royalties of AU$1260.

5 February 1991. Ross Ness-Wilson and John Sbeghen, at Ipswich Magistrates Court, charged with keeping and moving 43 Double-barred Finches *Poephila bichenovii*, 19 Crimson Finches *Neochmia phaeton* and two Mallee Ringnecks *Barnardius barnardi*. The birds were seized and returned to the wild. Sbeghen was convicted on a further charge of failing to maintain a register. Ness-Wilson fined AU$1400 (US$1072), plus AU$93.50 court costs; Sbeghen fined AU$1600, plus AU$140 court costs, and royalties of AU$2830.

A notice of seizure and recent convictions carried out under the *Wildlife Protection (Regulation of Exports & Imports) Act 1982* and *Wildlife Act 1975*, Victoria:

3 July 1990. Tammy Stokes, at Sandringham Magistrates Court, on two charges relating to illegal possession of a King Brown Snake *Pseudechis australis* and four Children's Pythons, and a third charge related to having no licence to keep two Burton's Snake-lizards *Lialis burtonis*. Stokes had been apprehended at a post office on 12 December 1989, collecting a parcel containing the animals. Fined AU$600 (US$460) plus costs.

16 October 1990. Murray and Janice Picken, at Horsham District Court, charged with illegal possession of 80 Musk Lorikeets *Glossopsitta concinna*, 60 Purple-crowned Lorikeets *G. porphyrocephala*, five Little Lorikeets *G. pusilla*, eight Crimson Rosellas *Platycercus elegans* and one Crested Pigeon *Ocyphaps lophotes*. Both received fines totalling A$12 140 (US$9300), plus costs.

In the latest of an ongoing series of apprehensions of Indonesian fishing boats in Australian waters, eleven motorised vessels, suspected of illegal fishing in coastal waters north of Darwin, were rounded up by the Australian Navy on 12 March 1991. On board were a total of 60 fishermen and crew sizes varying between six and 15 people.

Australia has stepped up surveillance of the northern waters because good weather and sea conditions in the area tended to encourage fishing. A week prior to this incident, an Indonesian fishing boat was seized in the same area and, on 8 March, a Japanese long-line fishing boat was caught off the Western Australian coast.

The Indonesians were fishing mainly for sharks, whose fins are a delicacy in South East Asia. Under Australian law, motorised vessels are banned from fishing inside the 320 km Australian fishing zone. If prosecuted, the crew members would be repatriated to Indonesia.

NEW ZEALAND

On 22 June 1990, at Christchurch District Court, Gunter Dittrich, a German citizen, was convicted on charges relating to illegal import and export of birds. Dittrich had been apprehended on 13 June 1990 as he attempted to leave Christchurch airport, for Bangkok, with eight Keas *Nestor notabilis* in his possession. He later admitted to the illegal importation of four Moustached Parakeets *Psittacula alexandri* on 11 June 1990. He was fined NZ$7000 (US$4070) on each of the two charges relating to import and attempted export of birds, contrary to the *Trade in Endangered Species Act 1989*. Dittrich was also convicted on charges, under the *Immigration Act*, of using a false passport to enter New Zealand, and producing a false passport for departure from the country; and, under the *Medicines Act*, of undeclared importation of valium. He was sentenced to two months' imprisonment on each of the three charges, to be served concurrently. Failure to pay the NZ$14 000 fine would result in a further three months' imprisonment.

Dittrich has a previous conviction in Australia for the illegal importation of Moustached Parakeets in 1987 (see *TRAFFIC Bulletin* 8(4):70).

On 28 August 1990, Frederick Angell of New Zealand, was convicted in Dunedin District Court on eight charges relating to trading, taking and possession of birds. He was charged under the *Trade in Endangered Species Act 1989* with respect to his involvement in the importation of Moustached Parakeets and attempted export of Keas by Gunter Dittrich. Charges were also laid under the *National Parks Act 1980*, on two counts of taking Keas from Fiordland National Park and Arthur's Pass National Park. The remaining charges were brought under the *Wildlife Act 1953* with respect to allowing wildlife to go at large and possession of protected wildlife. On 31 August 1990, the judge sentenced Angell to six months' imprisonment.

Andrea Dickinson, one of the couriers in the attempted smuggling operation, was convicted and fined NZ$2000 (US$1160), in Christchurch District Court, on charges under the *Trade in Endangered Species Act*.

Angell has a previous conviction for bird smuggling in Australia in 1986 (see *TRAFFIC Bulletin* 8(3):53).

On 4 March 1991, Clinton Mills was convicted in Christchurch District Court on charges under the *Animals Act 1967* of importing 20 Red-eared Turtles *Pseudemys scripta elegans* without a permit, and making a false declaration to the Ministry of Agriculture & Fisheries. Mills had attempted to bring the animals, concealed in his trousers, into New Zealand on 21 January 1991, on a flight from Perth, Australia. He allegedly claimed to have found the animals in a lake in Perth. Mills was sentenced to 80 hours' community service.

PAPUA NEW GUINEA

On 24 April 1990, in Boroko District Court, Jack Koh, a Malaysian national, and Tan Joo Liat, from Singapore, were convicted on charges, under the *Crocodile Trade (Protection) Act*, of buying crocodile skins without a licence. They were fined 200 Kina (US$200) each.

Oceania section compiled by TRAFFIC Oceania

AMERICAS

USA

A New York importer and wholesaler has been fined US$100 000 for unlawfully importing carvings made from African Elephant ivory.

On 3 January 1991, Pacemark Corporation pleaded guilty to importing the carvings on 23 August 1989 under a falsified bill of lading which indicated that the goods had been consigned for shipment prior to the imposition of a US ivory import ban on 9 June 1989.

An investigation lasting 18 months revealed that the ivory originated from the Sudan and had been shipped to China where it was carved; from there the ivory was shipped to the USA for sale to private collectors. Fourteen cases, containing intricately carved figurines up to four feet high, were seized and forfeited to the Government.

This case represents the first major prosecution since the adoption of the US ivory import ban.

A joint investigation by the US Fish and Wildlife Service and US Customs Service has uncovered an operation involving the illegal sale of Australian parrots, smuggled as eggs into the USA.

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▷ Paul and Jeannette Parker of Las Vegas were indicted on 12 July 1990, charged with incubating 208 parrot eggs which were then sold for thousands of dollars to buyers throughout the country. Also charged were Denise Hassler of Las Vegas, Suzette Morrison, a US citizen resident in Australia, and John Leleu of Australia (see also under Australia).

The eggs were smuggled into the country between September 1987 and December 1989, and included Galahs *Eolophus roseicapillus*, Major Mitchell's Cockatoos *Cacatua leadbeateri*, Long-billed Corellas *C. tenuirostris* and Gang-gang Cockatoos *Callocephalon fimbriatum*. A verdict has not yet been delivered.

An ex-policeman from San Diego, USA, has been charged under US federal smuggling statutes with illegally smuggling 327 fertile Ostrich *Struthio camelus* eggs into the USA.

Roger Jacobson was arrested after allegedly attempting to smuggle 110 of the eggs concealed in vinyl bags, through the San Ysidro port of entry on the Mexican/Californian border; 217 eggs were also recovered from a local motel. Documents indicate that the eggs came from Botswana and were shipped to Mexico via South Africa and Brazil.

There has been a US trade embargo on imports from South Africa since 1986 and, since 1989, an import ban on live ratites and eggs as potential disease carriers. For these reasons, and because the US ostrich farm industry has still not reached the population levels it needs to begin producing meat, skins, and feathers on a commercial scale, there is a great demand for new stock of live ostriches, chicks and eggs. Adult ostrich pairs may sell for US$45 000-US$75 000; three month old chick pairs can fetch US$5000 and eggs between US$750-US$1000.

Jacobson is being held on US$50 000 bail. If convicted on all charges, he faces up to 20 years imprisonment. The eggs were destroyed.

Three men were arrested in April 1991 for digging up over 1000 specimens of Venus Flytrap *Dionaea muscipula* in Green Swamp Nature Preserve in Brunswick County, North Carolina.

The 16 000 acre preserve is one of the last strongholds for the increasingly rare plant, whose numbers in some areas have been considerably reduced as a result of poaching. Current state law makes it illegal to harvest the plant from someone else's property. The penalty is a US$10-US$50 fine. Stiffer penalties, in which violators will face fines up to US$2000, came into effect on 1 June 1991.

Las Vegas Review Journal, 13 July 1990; TRAFFIC USA; The San Diego Union, 27 October 1990; Wilmington Star News, 12 April 1991

Japan Monitors Tropical Timber Imports

Japan's Ministry of Agriculture will begin monitoring tropical timber imports from South East Asia to gather data for a policy on import levels. The Ministry will require 53 Japanese trading houses to report planned tropical timber import levels over one-year and five-year periods. According to a Ministry spokesman "If actual imports exceed the plans, the Ministry may call for import cuts". The Ministry sent officials to Indonesia and Malaysia last month to discuss preservation of forests.

Japan has been criticised by environmental groups for importing too much tropical timber and thus contributing to the reduction of tropical forests.

Malaysia to Reduce Timber Logging

Malaysia, Japan's largest tropical timber supplier, will reduce logging to preserve its forests but intends to go into mass production of rattan, bamboo and rubberwood to make furniture for the increasingly lucrative export market, Deputy Prime Minister Ghafar Baba announced at a National Forestry Council meeting in April 1991.

Malaysia will cut the production of round logs to nine million cubic metres in the next few years from 11.8 million cubic metres in 1990.

A year ago the Government banned the export of logs from Peninsular Malaysia as part of a plan to encourage the manufacture of value-added products from forest resources; six months later, the export of raw rattan was banned to promote the local furniture-making industry.

Malaysia is Asia's largest exporter of tropical timber and has been severely criticised for indiscriminate logging, particularly in Sabah and Sarawak, in eastern Malaysia. The federal Government, which does not have jurisdiction over logging in the states of Borneo, has warned the region to reduce logging and exports.

Alerce Timber Seizures

On 3 and 4 September 1990, the Australian Customs Service seized a large quantity of Alerce timber *Fitz-Roya cupressoides* from three Melbourne timber yards. The wood is believed to be worth A$60 000-A$100 000 (US$45 000-US$75 000) in total.

On 29 November 1990, the New Zealand Department of Conservation took possession of a consignment of Alerce timber from Chile at the port of Auckland. The shipment of 70 cbm, estimated to be worth about NZ$49 000 (US$28 500), was surrendered by the importers, C. Aickin Timber, after the company was advised that, although the shipment was exported legally by Chile (under Chile's reservation on the CITES Appendix I listing of Alerce), importation into New Zealand was illegal under the *Trade in Endangered Species Act*. No charges are expected to be laid.

Section compiled by TRAFFIC Oceania

The Smuggling of Endangered Wildlife Across the Taiwan Strait.
An Investigation by the TRAFFIC Network.

1991. 24pp. Published by TRAFFIC International and TRAFFIC USA.
Limited copies available free of charge from TRAFFIC International. Stamped addressed A4 envelope required.

In recent years, the opening up of Fujian and Guangdong Provinces and the concurrent ending of martial law in Taiwan have led to an unprecedented flow of Taiwanese people into south-east China, the region from which the ethnic Taiwanese originally emigrated. Among the numerous business opportunities to be found, is trade in rare and endangered wild animals. In the past, both mainland China and Taiwan have gained a certain amount of notoriety for their exploitation and consumption of endangered species. In 1989, the People's Republic of China and Taiwan enacted comprehensive, strongly-worded wildlife conservation legislation. The most immediate effect of this action, however, has been to drive the trade underground.

Sponsored jointly by TRAFFIC International and TRAFFIC USA, an investigation into this illicit trade was carried out with the objectives of identifying species in trade, describing and documenting market organisation and highlighting specific law enforcement issues for the responsible authorities.

The report resulting from this investigation provides an in-depth insight into the methods used to smuggle wildlife specimens across the Taiwan Strait, revealing a dynamic network of wildlife dealers able to provide almost any animal or animal product from mainland China. Specimens in trade included Giant Panda, tiger and other rare felid pelts, many threatened primates, and a variety of protected species used for the medicinal trade.

The report notes improvements in law enforcement on both sides of the Strait, but points to lack of experience, manpower and political will as the main reasons that illegal trade continues essentially unhindered. Suggestions are made for remedial measures and the author calls for cross-Strait collaboration among conservation organisations.

Since its completion, this TRAFFIC investigation report has been formally presented to and discussed with representatives of the Chinese Embassy in London and officials at the Ministry of Agriculture in Beijing.

Parrots in the Netherlands; Trade and Breeding.
TRAFFIC Europe report NL-1
by drs. Arnold van Kreveld

1990. 78pp. Dfl.12.50 (US$8.00).
Available from TRAFFIC Europe-Netherlands (address back page). Cheques payable to TRAFFIC Nederland: giro 952751 or bank account 690902530 (NMB).

The Netherlands is one of Europe's largest markets for live parrots; over 75 000 were imported during 1984 to 1988. This country is also a major exporter of captive-bred psittacines; approximately 95% of the 125 000 parrots exported during 1984-1988 were bred in the Netherlands.

This report examines the Netherlands' role in the international psittacine trade and analyses legislation affecting the trade, trends in numbers and species imported, bred and exported, and issues relating to control of illegal trade.

The report recommends a number of alterations to Dutch legislation affecting parrot trade and various further measures are proposed to improve control of imports and captive breeding.

Identification Guide to Ivories and Ivory Substitutes.
Edgard O. Espinoza, Mary-Jacque Mann.

1991. 35 pp. Published by World Wildlife Fund & The Conservation Foundation. US$7.00. plus $2.00 postage from: WWF Publications, PO Box 4866, Hampden Post Office, Baltimore, MD 21211, USA.

This booklet is designed to offer an easy guide to the visual means of distinguishing legal from illegal ivory. The methods, data and background information presented on ivory identification are the result of forensic research conducted by the United States Fish and Wildlife Forensic Laboratory, located in Ashland, Oregon.

The booklet emphasises that, while methods described are reliable for the "tentative visual identification, and 'probable cause' to seize as evidence", an examination of the ivory object by a trained scientist is still necessary to obtain a positive identification of the species source. The publication is recommended as a useful tool for the professional wildlife law enforcement officer.

TRAFFIC is supported by WWF - the World Wide Fund for Nature and IUCN - the World Conservation Union - to monitor trade in and utilisation of wild plants and animals. As the majority of the Network's funding is provided by WWF, the Network is administered by the WWF Programme Committee on behalf of WWF and IUCN.

The mission of TRAFFIC is to enhance, in accordance with the principles of the World Conservation Strategy, the conservation of biological diversity by: monitoring and reporting on trade or other forms of utilisation of animals and plants and their derivatives; identifying areas of such utilisation that may be detrimental to any species, and; assisting the Secretariat of, and Parties to, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and other appropriate bodies in facilitating the control of trade and in curtailing possible threats to species created by trade or other forms of utilisation.

The TRAFFIC Network shares its international headquarters in the United Kingdom with the World Conservation Monitoring Centre.

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