

# TRAFFIC BULLETIN



---

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

---

The *TRAFFIC Bulletin* is a 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 and IUCN-The World Conservation Union. The *TRAFFIC Bulletin* publishes recent information and original papers on the subject of trade in and utilisation of wild 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.

Reproduction of any part of the *TRAFFIC Bulletin* may take place after written permission from the publisher. Quotation of brief passages with due citation is welcomed without permission.

*Editor and Compiler*  
Kim Lochen

*Assistant Editor*  
Julie Gray

Any opinions expressed in the *TRAFFIC Bulletin* are those of the writers and do not necessarily reflect those of TRAFFIC, WWF or IUCN.

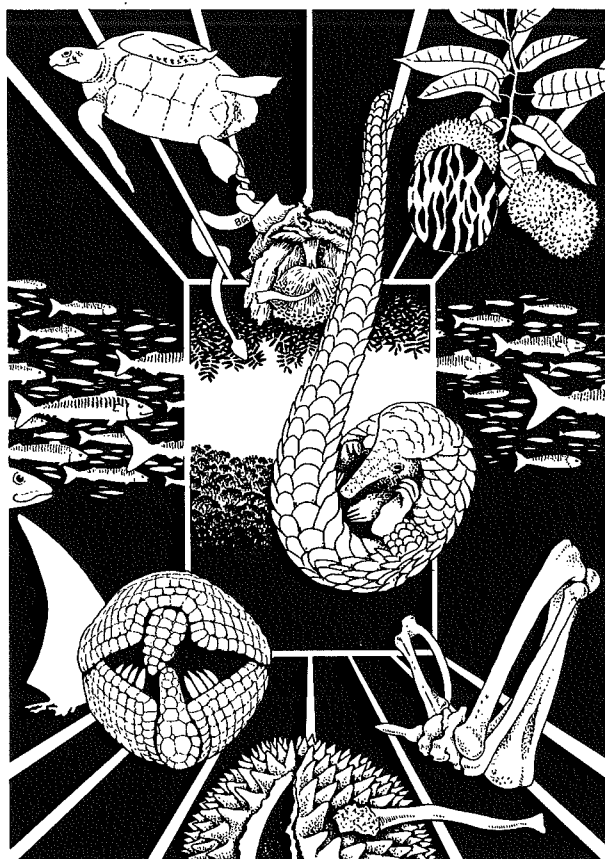
The designations of geographical entities in this publication, and the presentation of the material, do not imply the expression of any opinion whatsoever on the part of TRAFFIC or its supporting organizations concerning the legal status of any country, territory, or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries.

Published by TRAFFIC International  
Copyright ©TRAFFIC International 1994

ISSN 0267-4297

TRAFFIC - *Trade Records Analysis of  
Flora and Fauna in Commerce*

*TRAFFIC Bulletin* is printed on recycled paper by Foister & Jagg, Cambridge.



Cover illustration for Vol. 14 by Brian Groombridge.



**IUCN**  
The World Conservation Union

# TRAFFIC BULLETIN

VOL. 14 NO. 2

## C O N T E N T S

News	41-48
Marine File	49-52
Legislation File	52-54
<b>Rhino Horn in Taipei, Taiwan</b> <i>Jonathan Loh and Kirsty Loh</i>	55-58
<b>Study on Bear Gall Bladders for Sale in Hong Kong</b> <i>Amy Lau, Clement Ngai and David S. Melville</i>	59-62
<b>Utilisation of Wildlife in Bakossiland, West Cameroon</b> <b>With Particular Reference to Primates</b> <i>Sadie King</i>	63-73
Flora File	74
Seizures and Prosecutions	75-78
<b>A Spot Check on the Availability of Rhino Products in Guangzhou and Shanghai, China</b> <i>Jonathan Loh and Kirsty Loh</i>	79-80
<b>The Trade in Hill Mynas in India</b> <i>Vivek Menon</i>	81-82

JANUARY 1994

## Rhinos and Tigers: CITES Reviews Progress

At its 30th meeting held from 6 to 8 September 1993, the CITES Standing Committee reviewed the progress that had been made in response to its previous decisions related to the conservation of rhinoceroses *Rhinocerotidae* and the Tiger *Panthera tigris* (see *TRAFFIC Bulletin* 13(3):81-82 and CITES Notification to the Parties No. 738, 20 April 1993), and the information that had become available since then. It noted with approval that the Republic of Korea had acceded to CITES and had sought to strengthen its domestic legislation and enforcement action in respect of rhino products in particular. Whilst Yemen had not yet taken all necessary steps to accede to CITES, progress had been made towards improved enforcement of the ban on use of rhino horn in that country. Concern was expressed that the People's Republic of China and the competent authorities in Taiwan had not taken sufficient measures to control illegal trade in rhino horn and Tiger specimens.

It was agreed that the minimum criteria to be met for the adequate implementation of protection measures within the consumer countries should include:

- i) identification and marking of stocks of rhino horn;
- ii) consolidation of both rhino horn and Tiger bone stocks and their adequate control by the State;
- iii) adoption and implementation of adequate legislative measures; and
- iv) provision for adequate enforcement of the above measures.

A number of decisions were taken to reinforce progress already made: it was agreed that the Chairman of the Standing Committee should send a letter to the following countries: Zambia, to urge that country to take effective measures to end the transborder poaching and illegal trade in rhino horn; the Russian Federation, to improve implementation of domestic measures to prevent Tiger poaching and illegal transborder movement of Tiger specimens into south and east Asia; and, Myanmar, Viet Nam and the Lao People's Democratic Republic, urging adequate control of trade in wildlife, especially of the movement of rhino horn and Tiger specimens across their borders. The last three countries were also urged to accede to CITES. It was also agreed that the UK would pursue with the appropriate authorities in Hong Kong the concerns about illegal movement of rhino horn and Tiger specimens across its borders, in order to improve the effectiveness of enforcement.

Amongst the recommendations was the suggestion that a technical delegation, with a focus on implementation and enforcement, be offered to interested consumer countries and that a high-level delegation be sent to assess progress achieved by consumer countries.

In late November 1993, a CITES Technical Assistance Delegation, made up of specialists in various aspects of CITES from four continents, visited the People's Republic of China, Taiwan and the Republic of Korea. It advised host countries on CITES implementation and methods for

monitoring and policing the trade in rhino horn and Tiger bone, specifically with regard to points i) to iv) above.

With a confidential report on the delegation's conclusions and recommendations in hand, a High Level Delegation appointed by the Standing Committee followed in the first mission's footsteps in late January 1994 and the first half of February 1994. The results of both missions and any progress China, Taiwan and South Korea have made in curbing the trade in rhino horn and Tiger bone are to be discussed when the Standing Committee meets on 21 to 25 March.

*CITES Secretariat Notification to the Parties No. 774, 15 October 1993; TRAFFIC International*

## Pelly Action on Taiwan Pending

In a report to the US Congress dated 8 November 1993, President Clinton stated his intention to defer until March 1994 the decision on whether or not to invoke trade sanctions under the Pelly Amendment of the *Fishermen's Protection Act, 1967* on the People's Republic of China and Taiwan for undermining efforts to bring under control the trade in rhinoceros horn and Tiger bone. He set out the minimum actions that he expected those governments to have implemented by that time and concluded that importation prohibitions would be necessary if Taiwan had not by that time demonstrated "measurable, verifiable, and substantial progress" in this regard.

On 21 December 1993, the US Secretary of the Interior communicated these views in a letter to the People's Republic of China and Taiwan. Amongst the list of requirements for a resolution to the problem were: the need to register, mark, and control all stocks of rhino horn, Tiger bone and related products; the preparation and enactment of legislation to enforce registration requirements and to implement CITES recommendations; communication of the relevant laws and penalties to the traditional-medicine community and the public at large, and; the creation of an investigations unit to enforce the regulations and the initiation of a training programme for enforcement personnel.

*US Secretary of Interior, Bruce Babbitt, in litt. to State Councillor, Song Jian, of the People's Republic of China and Mr Paul Sun, Chairman, Council of Agriculture, Taiwan, 21 December 1993.*

## STOP PRESS

## Viet Nam and St Kitts-Nevis Accede to CITES

Viet Nam acceded to CITES on 20 January 1994, effective 20 April 1994. St Kitts-Nevis acceded on 14 February, effective 15 May 1994, and brings to 122 the number of Parties to the Convention.

*CITES Secretariat*



## NEWS

### China Destroys Confiscated Tiger Bones

In a demonstration of its resolve to discourage the trade in Tiger bone, in January 1994, in Harbin, north-east China, officials destroyed by fire 500 kg of Tiger bones. Law enforcement officials had confiscated the bones from some 100 street stalls selling traditional medicines. A number of people face fines or gaol sentences.

*Vice Minister, Shen Mao Cheng, Ministry of Forestry, People's Republic of China, pers. comm., 17 January 1993.*

### India's Tigers in Decline . . .

India is home to almost two-thirds of the world population of Tigers. According to a recent census of these animals in India, however, numbers may have fallen by several hundred since 1989. The major cause that has been identified for bringing about this downward trend is the organized poaching for illegal trade of Tiger parts, in particular the bones, which are used in traditional Asian remedies.

WWF has now called upon the Indian Government to strengthen its efforts to safeguard its Tigers. At a press conference in New Delhi on 24 December 1993, the Minister for the Environment and Forests announced the formation of a Tiger Crisis Management Team. Additionally, he stated that mobile patrols of specially trained anti-poaching personnel would be set up in all Tiger reserves and two new reserves would be established: Bandhavgarh in Madhya Pradesh and Tadoba in Maharashtra, bringing to 21 the total number of Tiger reserves in the country. A Global Tiger Forum of government representatives from all Tiger range countries will be held in March 1994, where further strategies and initiatives to combat the threat to Tigers will be discussed.

### . . . as Tiger Bone Seizures on the Rise

The largest seizure of Tiger bones ever recorded was made in India on 30 August 1993, following an investigation by TRAFFIC India. Delhi police and the Deputy Director of Wildlife Preservation seized 283 kg Tiger bones, 8 Tiger skins and 60 Leopard *Panthera pardus* skins from a Tibetan refugee, Pema Thinley, who has allegedly been smuggling wildlife articles, including Tiger bones, to Tibet for many years. The bones were destined for the Chinese medicine trade via Tibetan traders in Delhi and in Leh, Kashmir. Also included in the consignment were 164 assorted mammal skins which included Leopard Cat *Felis bengalensis*, Desert Cat *F. sylvestris*, Jackal *Canis aureus*, Blackbuck *Antelope cervicapra*, foxes, otters and civets. Thinley is being held in custody and bail has been refused. A further suspect involved in the case has been released on bail.

During interrogation, Thinley supplied information which enabled police to close in on Sansar Chand, a notorious wildlife trader on whose trail TRAFFIC investigators have been for many months. Chand, who is believed to have masterminded the largest-known poaching network in north-east India, was also a suspect in the smuggling of the Tiger products seized in August. Pressure placed on the police by TRAFFIC officials and others to step up efforts to apprehend Chand finally resulted in Chand's surrender to a judicial magistrate on 13 December 1993. By surrendering to the Court, his purpose had been to avoid interrogation by wildlife police officers although, in the event, authorities were allowed to question him in the presence of his lawyer inside the gaol. He has pleaded not guilty to any offence.

Chand, of Sadar Bazar, New Delhi, has been arrested on numerous occasions in the past and thousands of animals skins, including 92 Tiger skins and 30 kg of Tiger bones in 1990, have been seized from him. On each occasion, however, he was granted bail. Recently WWF India and TRAFFIC India petitioned the Delhi High Court to initiate a one and a half year gaol sentence imposed on Chand by a lower court in 1982; he has now started serving this sentence and faces charges on a further five offences.

*TRAFFIC India; WWF-India Press Release 24 December 1993*

### Hong Kong Tightens Trade Controls

On 27 January 1994, Hong Kong announced that tighter controls would be imposed on the trade in all medicines that contain or purport to contain Tiger products. The Executive Council has also approved amendments to the *Animal and Plants (Protection of Endangered Species) Ordinance* to include under its control the importation, export and possession of a number of species including the American Black Bear *Ursus americanus*, the only species of bear in which trade in Hong Kong has hitherto not been controlled. The controls will cover bear gall bladder and bear bile and implements the requirements of CITES which listed this species in Appendix II in 1992 (see pages 59-62).

An Endangered Species Protection Liaison Group convened by the Agriculture and Fisheries Department and comprising representatives from the Customs and Excise Department and the Police has been set up to improve enforcement of trade controls: in recent months, inspection of Chinese medicinal shops has resulted in a number of seizures (see page 76). An extensive programme to improve public awareness of the legislation is underway and will include television and radio broadcasts and the wide distribution of publicity material.

*Press Release of the Agriculture and Fisheries Department, Hong Kong, 27 January 1994*

## Ivory and Rhino Horn Smuggling in Africa

Police in Richards Bay, northern Natal, South Africa, have reported a sharp increase in ivory and rhino horn smuggling into the country across the border from Mozambique. Between December 1992 and September 1993, 13 smugglers were arrested and 11 elephant tusks and seven rhino horns were confiscated. According to Lieutenant Stanislav Tuketti of the Richards Bay branch of the South African Narcotics Bureau, "the smuggling of rhino horns and ivory from Mozambique is increasing all the time ... Richards Bay policemen now probably make more of these type of arrests than police anywhere else in Natal." He said that smugglers from Mozambique walk through the bush at night carrying tusks and horns across the border and then use taxis or waiting cars to move them around South Africa.

Mogadishu, in Somalia, has reportedly become a major clearing centre for poached ivory. Gangs of poachers regularly leave the capital on month-long hunting expeditions. With a depleted elephant population in a country devastated by drought and three years of civil war, poachers are believed to be travelling into northern Kenya and returning with their booty through the lightly guarded border. The ivory is then sold to middlemen in Mogadishu who export it to the Far East and Europe; to increase its value, the ivory may also be carved into trinkets and jewellery. Allegedly, several former gamekeepers with the Somali Government's wildlife department have turned to poaching. One, who worked for an anti-poaching group set up in the 1980s, claims he has little choice but to use his skills to earn money in a dishonest way to survive. "There is no law here anymore," he said. "It is easy".

*Sunday Times (South Africa), 12 September/7 November 1993*



© WWF/Mark Boulton/ICCE

1 April-31 March:	1990/1991	1
	1991/1992	3
	1992/1993	11
1 April 1993-January:	1994	6

The poaching is attributed to local, South African-based poachers, as well as to incursions from Mozambique. During 1993, game wardens made contact with poachers on two occasions and three poachers were killed. No arrests have been made directly associated with any of these incidents. Four pairs of horns have been recovered over the four-year period: one pair from one of the poachers who was killed, one pair from an animal that had been wounded by poachers and died later, and two pairs from confiscations carried out by South African Police. In only one case was the meat removed by poachers.

The area currently most affected by rhino poaching is between the Crocodile and Sabie rivers, and to a lesser extent between the Letaba and Shingwedzi rivers.

*Dr G.A. Robinson, Chief Executive Director, National Parks Board, in litt., 31 January 1994.*



© WWF/Rick Weyerhaeuser

## Rhino Poaching in Kruger National Park

The available figures for rhino poaching incidents in Kruger National Park, South Africa, for 1990 to date, are presented below. These figures are provisional as information related to a few incidents is still under investigation.

## Leo in the Descendent in Botswana

A combination of poaching and inadequately controlled hunting for sport trophies is blamed for a steep decline in the number of Lion *Panthera leo* in the Linyanti area of northern Botswana, reports *CatNews* (No. 19, September 1993). Observations over a six-year period by film maker Derek Joubert and his wife show that few hunts are carried out legally with the appropriate licence and in the permitted area. Joubert says that every year over the study period almost all the available pride males were shot along the Linyanti river front and as a result good trophy males are becoming scarce. Female lions are left alone to fend off hyenas from their kills and this has led to the stability of the pride breaking down and a drop in breeding. Additionally, some male Lions have become habituated to the presence of vehicles, making them easy targets for sport hunters. Buffalo *Syncerus caffer* have also declined as a result of overhunting. Joubert estimates that various safari companies have on occasion shot up to 25% more than their quota if one takes into account those specimens that are wounded but not caught, and which later die.

## PUBLICATIONS

A further two reports have been published in the *SPECIES IN DANGER* series and are available from TRAFFIC International:

### ***Bluefin Tuna. An Examination of the International Trade with an Emphasis on the Japanese Market***

Andrea L. Gaski

1993. 71pp. £5.00 (US\$10.00).

TRAFFIC's report represents the first-ever attempt to analyse the data on catch figures for bluefin tuna and provide an examination of the trade in this fish for international markets.

### ***Sold for a Song. The Trade in South-east Asian Non-CITES Birds***

Stephen V. Nash

1994. 84pp. £5.00 (US\$10.00).

Little is known of the populations of virtually all non-CITES species but their trade in Southeast Asia is of a scale far greater than was previously supposed. This report, which presents the findings of a two-year study, shows that trade in threatened species, rare and little-known species and those supposedly fully protected, is widespread.

... and from TRAFFIC India:

### ***Turtle Trade in India. A Study of Tortoises and Freshwater Turtles***

B.C. Choudhury and S. Bhupathy,  
Wildlife Institute of India

Based on a larger study conducted jointly by the Wildlife Institute of India and the US Fish and Wildlife Service, this report outlines the present status of Freshwater Turtles and Land Tortoises in India. Focus is given to their utilisation for food and as pets, and includes a list of their uses in tribal medicines. A colour poster of 26 species occurring in the Indian subcontinent is included.

1993. 50pp. £5.00 (US\$10.00).

Prepared by TRAFFIC India for WWF-India in collaboration with the Wildlife Institute of India. Limited copies available from TRAFFIC India.

## **The Birds of CITES and How to Identify Them**

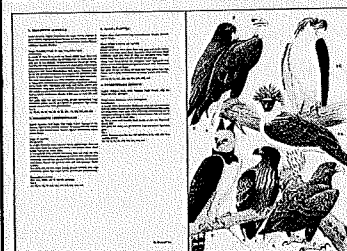
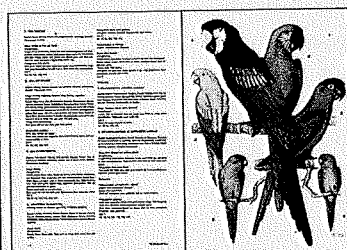
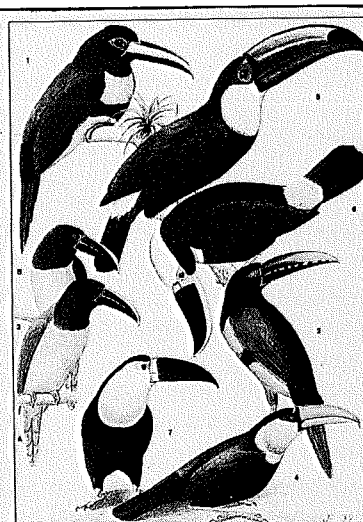
**By Johannes Erritzoe**

Foreword by His Royal Highness Prince Philip, Duke of Edinburgh, President of the Worldwide Fund for Nature.

Preface by Jean-Patrick Le Duc, Infraction Prevention Officer, CITES Secretariat.

The FIRST comprehensive guide to the world's endangered birds listed in the appendices of CITES (Convention on International Trade in Endangered Species).

- \* Beautiful and detailed watercolour illustrations.
- \* Concise descriptions of each species, including size, plumage, colour and distinguishing features.
- \* 406 species described and illustrated in colour, and the "look alike" groups depicted in black and white.
- \* To be updated every two years.



Format: 297 X 210mm  
Pages: 224 pages  
Price: Hardback £30, ISBN 0 7188 2894 1  
Ringbound £26, ISBN 0 7188 2892 5  
Leatherbound £95, ISBN 0 7188 2895 X  
Publication November 1993

**Full Colour \* Large Format \* Up-to-date**

An indispensable reference for all controlling authorities: bird conservationists, customs officers, taxidermists, aviculturists and scientific advisers.

A collector's item for all bird-lovers and ornithologists.

#### **INCLUDES:**

- \* Quick Guide to all Bird Families of the World.
- \* Glossary of 650 technical terms translated into French, German and Spanish.
- \* Text and Plates: 75 colour plates and 10 black and white pages illustrating all protected bird species with textual descriptions.
- \* World Map with key to identify countries/regions of distribution.
- \* CITES appendices describing the protected status allocated to species.
- \* Index of Latin names.
- \* Colour plate guide with 54 English names.

*"It will become an essential implementation tool for all involved in the rules of this organisation, and we wholeheartedly recommend THE BIRDS OF CITES"*

(CITES Secretariat)

## **The Birds of CITES and How to Identify Them**

Johannes Erritzoe

1993. 224pp. Ringbound: £26/US\$44; Hardback: £30/US\$51;  
Leatherbound: £95/US\$161.

Available from The Lutterworth Press, PO Box 60, Cambridge CB1 2NT, UK.

The UK Joint Nature Conservation Committee has recently published updated volumes of the *World Checklists of Threatened Birds, Mammals, and Amphibians and Reptiles* and the *Checklist of Fish and Invertebrates listed in the CITES Appendices*. The volumes have been prepared by the World Conservation Monitoring Centre, Cambridge, UK, under contract to the JNCC. Details of availability should be directed to JNCC, Monkstone House, City Road, Peterborough PE1 1JY, UK.

## Rhino Dehorning in Zimbabwe: an Update

Reports from Zimbabwe concerning continuing losses of dehorned rhinos to poachers, including the virtual extermination of the country's largest population of White Rhino *Ceratotherium simum* at Hwange National Park, have led some observers to characterize the controversial strategy to deter poachers as an abject failure. Regardless, it may still be premature to pronounce dehorning as an ineffective component of an overall rhino conservation strategy.

In Zimbabwe, the first experimental operation resulted in the dehorning of 59 White Rhinos in Hwange National Park in October 1991. White Rhinos were initially targeted because they are grazers and tend to inhabit open habitat, making them particularly vulnerable to poachers. In June 1992, in recognition of the worsening poaching crisis, the Government wildlife authorities initiated a nationwide dehorning programme for both rhino species which continues to this day. By 1 September 1993, a total of 212 Black Rhinos *Diceros bicornis* and over 120 White Rhinos had been dehorned. Of these, at least 80 rhinos have now fallen to poachers.

In evaluating the effectiveness of rhino dehorning in preventing poaching, a variety of factors need to be considered. From the outset, Department of National Parks and Wild Life Management (DNPWLM) authorities and the conservation organizations which have supported them have always characterized the dehorning programme as a crisis management tool to be pursued in tandem with a continuing aggressive anti-poaching and law enforcement effort. The dual strategy of reducing the profit and increasing the risks to poachers has been identified as the most effective combination to undermine incentives to poach (Milner-Gulland and Leader-Williams, 1992; 't Sas-Rolfes, 1993).

In Hwange National Park, vital anti-poaching operations virtually ground to a halt during the first quarter of 1993, the consequence of a severe funding and personnel shortfall resulting from Government-imposed austerity measures in conjunction with the International Monetary Fund's economic restructuring programme for Zimbabwe. In spite of the fact that the wildlife/tourism sector is one of Zimbabwe's most productive economic assets, the DNPWLM was forced to retrench 259 game scouts at a time when more people are needed in the field to combat an intensified poaching threat. Worse yet, new Government directives forced the Department to remit 10% of the FY1991/92 budget to the Central Treasury in early 1993. In essence, this move depleted DNPWLM's cash assets, resulting in the curtailment of most field operations in Hwange until the new budget was available in June. During this five-month period, the park, an area covering 14 000 km<sup>2</sup>, was virtually unpoliced. Without any protection programme for rhinos *in situ*, dehorning has proven to be ineffective as a deterrent to poachers and the result for the park's White Rhino population has been catastrophic.

Another consideration in assessing the Hwange situation is the rate of horn regrowth. Most of the so-called 'dehorned' rhinos that were poached were actually carrying a year and a half of new horn growth: the anterior horn was over 10 cm and the posterior horn over 4 cm in length, with a total weight of horn close to 1 kg - comparable in size to horns naturally borne by juvenile Black Rhinos.

Recent analysis has suggested that for dehorning to be an effective deterrent to poachers, it must be performed annually (Milner-Gulland *et al.*, 1992). The evidence from Hwange would seem to corroborate this hypothesis. While all but two of the White Rhinos with 18 months of horn regrowth have been eliminated, only four of the 58 Black Rhinos which were more recently dehorned in Hwange are reported to have been killed. Elsewhere in the country a similar holding pattern is noted with fewer than 20 fatalities recorded from the more than 200 dehorned Black Rhinos.

For poachers from neighbouring Zambia, a country facing extreme economic hardship, Hwange offered an opportunity with an acceptably low risk and an adequate reward: not only did it hold Zimbabwe's largest remaining rhino population, it also contained the country's greatest concentration of rhino horn, as over 40% of the 200 Black and White Rhinos estimated in the Hwange region in late 1992 had either never been de-horned or had considerable horn regrowth.

The motivation behind poachers who consciously choose to kill newly dehorned rhinos remains open to conjecture. Some observers have alluded to a calculated syndicate effort to drive up the value of rhino horn by simply ordering poachers to eliminate all rhinos. There is in fact little evidence to support this kind of conspiracy theory. Analysis of available law enforcement data indicate that most poaching is a very opportunistic, loosely organized and unstructured affair driven by poverty and *ad hoc* relationships. Others have speculated that the horn stubs of even newly dehorned rhinos are valuable enough to attract poachers. Unfortunately, there are no reliable data to indicate what financial returns poachers are receiving for rhino horn stubs. To date, no horn stubs from dehorned rhinos have been confiscated in international trade nor identified in consumer markets.

Another possible motive is suggested by a statement made by a Zambian poacher apprehended in Hwange National Park. This poacher indicated that in areas where both horned and dehorned rhinos exist, if valuable time is spent tracking a rhino and it turns out not to harbour horn, it may be shot anyway because poachers do not want to be sidetracked by repeatedly following the spoor of hornless animals (G. Tatham, pers. comm., 1993). These remarks correspond with statements made by hunters of Musk Deer *Moschus chrysogaster* in the Indian Himalayas, who have indicated a willingness to kill females and juveniles even though they do not yield the prized musk, because they do not want to waste time and effort tracking or trapping such animals (Green, 1986).

Where all rhinos have been freshly dehorned as in Matobo National Park, south of Bulawayo, anecdotal evidence continues to show that poachers have refrained from shooting rhinos even though they had opportunities

## NEWS

to do so (G. Tatham, pers. comm., 1993). It is not known whether this is the result of fear of detection or disinterest in the reduced return one gets from newly dehorned rhinos. Similarly, evidence of poachers not shooting rhinos was received from Hwange after the initial dehorning of White Rhinos in 1991, and there have been instances where poachers have not removed the horn bases of newly dehorned rhinos they have killed in Hwange, Chizarira and Matusadona National Parks (Milliken *et al.*, 1993).

Zimbabwe's poaching problems continue to involve neighbouring Zambia where most of the poachers originate. Since December 1992, at least three groups of poachers from Zambia have penetrated more than 450 km into the country to reach Matobo National Park. While the core element in each of these gangs comprises Zambians, in at least one of the gangs there were Zimbabwean collaborators. However, as far as is known, local communities have not assisted these poachers and have, in fact, come forward with information on the movements of the gangs through their communal areas. This co-operation enabled the Zimbabwe Police Support Group to make contact with the poachers on several occasions. During the latest incursion, in September 1993, it was observed that the poaching gang refrained from shooting dehorned rhinos in Matobo National Park and instead killed a horned rhino on a nearby ranch. Follow-up anti-poaching action resulted in a Zambian being killed in Tjolotjo Communal Land and the recovery of one of the horns.

In other developments, the attempt to re-establish a focused anti-poaching effort in areas under Government control has been boosted by the development of a strategic plan for the creation of Intensive Protection Zones (IPZs). A workshop convened in early September 1993 identified Matobo, Hwange and Matusadona National Parks and the Chipinge Safari Area as the most viable locations for IPZs. Collectively, these four locations currently harbour an estimated 80 Black Rhinos and 40 White Rhinos, with more specimens being translocated into Matusadona at present. A streamlined operational command structure, detailed budgets and manpower plans have been developed. If properly implemented, the IPZs probably hold the only hope for the survival of rhinos on Government lands.

Zimbabwe's rhino populations in the privately-owned conservancies, particularly the lowveld Save Valley, Chiredzi River and Bubiana conservancies, continue to expand since the translocation of founder groups in 1986. Innovative links with surrounding communities, reward systems to informants, and anti-poaching programmes which include dehorning, are components in the conservancy programmes designed to inhibit poaching. It is worth noting that game scouts in the conservancies, who are generally recruited from local communities, have strongly endorsed dehorning as a way to reduce poaching pressure. There has been no rhino poaching in the Bubiana

and the Chiredzi River conservancies to date and none in the Save Valley for two years. Elsewhere on private lands, other initiatives are making short-term progress. The satellite breeding group of 14 Black Rhinos translocated to the Lonely Mine area in 1987, for example, has expanded to 19, of which four have recently been moved to the large lowveld conservancies. However, poaching losses on other private ranches allow little room for complacency and an intensified anti-poaching effort is underway in the conservancies.

Meanwhile, fully cognizant of the continuing dehorning debate in Zimbabwe, Namibia, which first initiated dehorning Black Rhinos in 1989, announced a new programme of dehorning its rhinos in October 1993. The Namibian Ministry of Wildlife, Conservation and Tourism (MWCT) has undertaken a dehorning programme of Black and White Rhinos in Etosha and Waterburg Plateau. The MWCT announcement acknowledged that Zimbabwe represents "a unique situation with complex social factors involved after years of lethal battle between poachers and conservators".

### ACKNOWLEDGEMENTS

The authors would like to acknowledge the assistance of Glenn Tatham, Chief Warden, Operations, Department of National Parks and Wild Life Management, Harare, Zimbabwe.

### REFERENCES

- Green, J.B. (1986). The distribution, status, and conservation of the Himalayan musk deer (*Moschus chrysogaster*). *Biological Conservation* 35:347-375.
- Milliken, T., Nowell, K. and Thomsen, J.B. (1993). *The Decline of the Black Rhino in Zimbabwe: Implications for Future Rhino Conservation*. TRAFFIC International, Cambridge, UK.
- Milner-Gulland, E.J., Beddington, J.R. and Leader-Williams, N. (1992). Dehorning African rhino: a model of optimal frequency and profitability. *Proceedings of the Royal Society of London* 249:83-87.
- Milner-Gulland, E.J. and Leader-Williams, N. (1992). A model of incentives for the illegal exploitation of black rhinos and elephants: poaching pays in Luangwa Valley, Zambia. *Journal of Applied Ecology* 29:388-401.
- 't Sas-Rolfes, M.J. (1993). The economics of rhino conservation: an economic analysis of policy options for the management of wild rhino populations in Africa. Unpublished manuscript. UCL. 74pp.

Tom Milliken, TRAFFIC East/Southern Africa.  
Raoul du Toit, Rhino Conservation, Department of National Parks and Wild Life Management, Harare, Zimbabwe.

## Tanzania Manages its Birds

A management plan for Tanzania's wild birds, published by the Department of Wildlife in Tanzania, has received official Government approval by the Minister of Tourism, Natural Resources and Environment in that country. *The Policy and Management Plan for Tanzania's Avifauna with Special Reference to the Live Bird Trade* arose out of a workshop organized by the Planning and Assessment for Wildlife Management project, held in December 1991, at which TRAFFIC International staff played a key role. Tanzania's goal is to promote sustainable utilisation of wild birds as an incentive for habitat conservation and the main aims of the plan are:

- to increase or maintain numbers of each bird species, with special regard to endemic species;
- to produce a sustainable harvest of bird species in which it is appropriate to trade;
- to initiate utilisation through captive breeding programmes for appropriate key species;
- to conduct any trade in live birds in a humane manner;
- to manage birds where appropriate for the benefit of local communities.

The plan will take into account the abundance and value to world markets of each bird species, as well as the area and type of habitat each species occupies and the extent to which this has been disturbed by human activities. From 1994, more stringent regulations will define numbers of appropriate bird species available for capture. The Wildlife Department will issue an annual quota of birds available for the trade, which will refer to numbers of birds caught, not exported, and will be divided equally amongst licensed traders. The quota will specify individual species rather than species' groups, as was the case previously. Once agreed by the Government, the quotas will be sent to the CITES Secretariat for circulation to Parties. The Department of Wildlife will also set minimum market values for each species, to be based on one eighth of the retail value in consumer countries.

The plan will be reviewed every three years.

*Policy and Management Plan for Tanzania's Avifauna with Special Reference to the Live Bird Trade, Department of Wildlife, PO Box 1994, Dar es Salaam, Tanzania.*

Tanzania has reduced the number of ports of export for birds to two, namely, Kilimanjaro International airport and Dar es Salaam International airport.

MIOMBO No. 10, July 1993

## The Lure of Lories

The desirability for more information on the status of wild populations of the Purple-naped Lory *Lorius domicellus* (CITES Appendix II) has been highlighted, since a field trip conducted in the summer of 1991 discovered that there was little effective protection for the birds on the islands of Ceram and Ambon, in Indonesia, but that they were fetching high prices in local trade.

Ornithologists on the field study noted that only a tiny area of primary forest remains on Ambon, and that no suitable parrot habitat now exists. On Ceram, Purple-naped Lories persist in tropical forest habitats, preferably at between 500 m and 1000 m altitude, and are specifically protected in Manusela National Park, which covers about 10% of the island. The Lories are trapped by locals, even within the national park, however, and usually sold on to dealers, who deliver to wholesalers in Ambon. At the time of the 1991 study, a dealer on Ceram was in possession of nine Purple-naped Lories, all of breeding age, and he reported having taken well over 200 of these birds from Ceram to Ambon during 1990. The Purple-naped Lory is popular as a pet on the islands, and although many were seen in captivity on the streets of Ambon, few were seen on Ceram, where it is believed they are quickly sold, once captured, to realize their commercial value. On a survey of the bird market in Ambon town on 24 July 1991, four Purple-naped Lories were seen for sale, none of which were still there on a subsequent visit on 5 August 1991. The vendor of the birds was not prepared to say what had become of them.

*Australian Birdkeeper, February-March 1993*

## Parrots in Moluccas Need Monitoring

Between October 1991 and February 1992, field surveys on the status of parrots in the North Moluccas, Indonesia, were conducted on Obi, Bacan and Halmahera, with the principal focus on three significantly traded species: White Cockatoo *Cacatua alba*, Chattering Lory *Lorius garrulus* and Violet-necked Lory *Eos squamata* (all CITES Appendix II). The findings of the surveys, in Lambert (1993), indicate that minimum populations (the first two being global) were 50 000, 46 000 and 66 000 birds respectively, and minimum estimated captures in 1991 were 5120, 9600 and 2850 birds, indicating over-exploitation of the first two species. The report states that, to ensure sustainability of these populations, the total annual catch quotas should be reduced to 1710, 810 and 1590 respectively and to allow for fair division of this allocation between islands. Also needed are training, enforcement, monitoring, research and habitat conservation.

Lambert, Frank R. (1993). *The Status of and Trade in North Moluccan Parrots with particular emphasis on Cacatua alba, Lorius garrulus and Eos squamata*. IUCN/SSC Trade Specialist Group. IUCN, Gland, Switzerland and Cambridge, UK. xvi + 120 pp.



## Danse Macabre

Islamic law prohibits the baiting of animals, and bear baiting, specifically, is illegal in the Islamic Republic of Pakistan, under the *Prevention of Cruelty to Animals Act, 1980*; all provincial wildlife laws in Pakistan also forbid the hunting and capture of bears. An investigation carried out in March 1993, in Pakistan, concluded, however, that about 2400 bear-baiting events are staged annually in the country, in contravention of all these laws.

The investigation, undertaken by the World Society for the Protection of Animals, estimated that at least 1800 Himalayan Brown Bears *Ursus arctos* and Asiatic Black Bears *Selenarctos thibetanus* are held in captivity in Pakistan, most of which are used as "dancing" bears, with about 300 being used in "bear baiting" fights with dogs. Local Government authorities sign permits allowing the fights to be staged. These take place during the winter months only, on the occasion of festivals and special events, such as weddings.

The stock of captive bears is replenished as necessary by hunters capturing cubs in northern Pakistan, who sell them to middlemen, who in turn sell them to *Qalanders* (gypsies), who keep and train the bears. A cub at source is sold for Rs.3000 (US\$100), but a trained bear with a good reputation may fetch Rs.150 000.

The findings of the investigation were presented to the Government of Pakistan, which "plans to soon undertake various measures to rectify the situation".

*Natura* (newsletter of WWF Pakistan), Spring/Summer 1993; *Liberty News*, 5, July 1993

In Bulgaria, Brown Bears *Ursus arctos* have long been kept and bred by gypsies who train the animals to perform tricks and to dance. In January 1993, under Order No. 1023/31, Bulgaria outlawed the killing or possession of bears, except under exceptional circumstances. However, as it is difficult to house confiscated bears, the Ministry of Environment has set up a scheme that allows possession of bears that have been registered; surveys carried out by regional authorities have so far recorded the registration of 82 specimens, 22 of which are 'dancing bears' kept by gypsies.

International assistance is being sought by the Ministry of the Environment to house 26 Bears being held in cages in a forest between Asenograd and Smolyen in Mazala/Kornisos. These animals are the last surviving specimens which were bred to populate a hunting reserve used by Todor Zhivkov, the former President of the State Council, and his guests. The animals range in age from six months to 15 years.

*TRAFFIC Europe*

## Python Prescriptives

According to *Suara Pembaruan* (27 October 1993) further studies need to be carried out on the python population in Cilacap in Central Java, Indonesia, where the snakes are much in demand for their meat, skin and bile.

In Sidareja district, a hunter might capture between seven and 15 specimens a week: depending on size, one python skin can fetch between 30 000 and 45 000 rupiahs (US\$15-US\$21). The dried meat, known as "Abon ular", is available in markets and worth up to 25 000 rupiahs a kg. It is thought to cure skin diseases, asthma and diabetes. The bile, used for its supposed aphrodisiac properties, is the most expensive derivative at 40 000 rupiah an ounce (= 28 g); it is consumed in main cities in Java such as Surabaya, Yogyakarta, Solo and Semarang.

The snakeskin trade is regulated by a quota system monitored by the Directorate General of Forest Protection and Nature Conservation (PHPA); however as no information is available on wild populations of these snakes, the quota may bear no relation to levels of harvesting that may be sustainable.

*Drs. Fachruddin M. Mangunjaya, WWF Indonesia Programme, Jl. Pela No. 3, Gandaria Utara, Jakarta Selatan (12140), Indonesia.*

## IUCN-The World Conservation Union selects a new President and Director General

Jay Hair, Chief Executive of the National Wildlife Federation (USA), has been elected as the new President of IUCN-The World Conservation Union.

Mr David McDowell has been appointed Director General to IUCN-The World Conservation Union. His appointment is expected to begin in April 1994 on the retirement of the incumbent Director General, Dr Martin Holdgate.

Mr McDowell is currently New Zealand's Ambassador to Japan. He has extensive experience in global issues in his capacity as Permanent Representative of his country to the United Nations and as member of the Commonwealth Secretariat. He has also served as Director General of the Department of Conservation and Head of the overseas development aid agency of New Zealand.

*TRAFFIC International; IUCN-The World Conservation Union Press Release, 14 October 1993*

## Support for Southern Ocean Whale Sanctuary

A proposal to establish a circumpolar sanctuary for whales received strong support at the General Assembly of IUCN-The World Conservation Union, in Argentina, in January 1994. Within the sanctuary, which would extend south of latitude 40°S to the edge of the Antarctic ice, commercial whaling would be prohibited for a minimum period of 50 years. The region is the main feeding ground for the Sperm Whale *Physeter macrocephalus* and all but one of the baleen whales *Mysticeti* in the southern hemisphere.

The plan for the sanctuary was originally proposed in 1993 by France, seconded by Ireland, and has received strong endorsement from other members of the International Whaling Commission (IWC), including Argentina, UK and the USA. Japan and four Caribbean nations were among those who opposed the plan at the IWC meeting last year. The proposal will be presented at the next meeting of the Commission, in Mexico, in May, where a three-quarters majority vote of those present is required before the plan can be sanctioned.

*World Wide Fund for Nature Press Release, 26 January 1994*

## Norway and USA in Conflict Over Whaling

The USA has announced that prohibitions on the importation of certain Norwegian seafood products may be implemented under the US *Pelly Amendment* to the *Fishermen's Protective Act, 1967*, if Norway fails to comply with the International Whaling Commission (IWC) moratorium on commercial whaling. Norway resumed its commercial operations to catch Minke Whales *Balaenoptera acutorostrata* from the North Atlantic stock during the 1993 season with a quota of 160 Minke Whales for exclusively commercial use; (a catch of 136 was allocated for scientific purposes).

In a letter to the Congress of the USA, dated 4 October 1993, President Clinton states that "there is an absence of a credible, agreed management and monitoring regime that would ensure that commercial whaling is kept within a science-based limit". He has directed that a list of potential sanctions be developed, which would include prohibitions on Norwegian seafood imports. However, the President stated that it is his sincere hope that efforts to persuade Norway to follow agreed conservation measures will be successful and that sanctions will become unnecessary.

The size of the North Atlantic stock has been estimated at 86 700 by the IWC's Scientific Committee.

*Letter to the Congress of the United States, William Jefferson Clinton, The White House, 4 October 1993.*

## France Drifts as Taiwan Toes the Line

In October 1991, the European Council of Fishing Ministers, in accordance with the requirements of a UN resolution, banned the use of driftnets of a length in excess of 2.5 km. However, an exemption was permitted for members of the French driftnet fleet (50 boats) which has been fishing for Albacore Tuna *Thunnus alalunga* with pelagic driftnets in the northeast Atlantic for at least two years prior to this regulation. Owners of 37 of these vessels using 2.5 km-5 km long driftnets were given until 31 December 1993 to allow them time to refit their boats for other fishing techniques; driftnets on the remaining boats in the fleet do not exceed 2.5 km. The exemption was due to end on that date unless it could be shown, with scientific evidence, that the nets were not ecologically damaging.

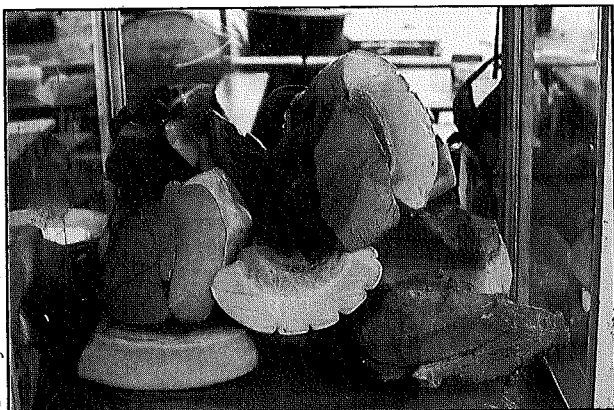
Following the European Council decision, the French Ministry of the Sea commissioned a study on the French Albacore Tuna driftnet fishery which was also to include a census on incidental take, in particular of cetaceans. The study was carried out by the "Institut français de recherche et d'exploitation de la mer" (IFREMER) over two fishing seasons (1992 and 1993). In November 1993, their findings were presented to the Fishing Scientific and Technical Committee. These showed that Striped Dolphin *Stenella coeruleoalba* made up 69% of the species caught accidentally in 1992 and 64% in 1993, and the Common Dolphin *Delphinus delphis* comprised 24% over the two years. These two species are listed in Appendix II (species strictly protected) of the Bern Convention. An extrapolation shows that about 1700 dolphins are caught every year by French driftnets. In addition, IFREMER reports the inclusion in these catches of between 70 000 and 80 000 Blue Shark *Prionace glauca* each year; Swordfish *Xiphias gladius*, marine turtles - mainly Leatherbacks *Dermochelys coriacea* and Loggerheads *Caretta caretta* - and seabirds are also caught. The report was unable to provide scientific evidence that these nets do not cause ecological harm, although in the case of some by-catch species, for example Blue Sharks, the numbers caught are insignificant in relation to their standing population (I. Lutchman, pers. comm., 3 February 1994).

Although the French did not make an official proposal for an extension to the exemption, at a meeting of EC fisheries ministers in December 1993 the European Commission was requested to prepare by 15 February 1994 a report on the fishery if an extension was to be considered. The Albacore Tuna fishermen have said that as they have purchased new driftnets, they will use them when they commence operations in June 1994.

In Taiwan, the Government has offered either to buy back vessels from its driftnet fleet or provide refitting loans for alternative equipment. To date, 33 driftnet vessels have been purchased under the 'buy back' programme while 93 vessel owners have applied for loans. Taiwan has indicated that offenders fleeing Taiwanese waters will be prosecuted if arrested by foreign authorities and extradited to Taiwan.

*TRAFFIC Europe (France); Le Marin; IFREMER; WWF-UK; Forum Fisheries Agency News Digest, 4/93; TRAFFIC Taipei*





Baleen whale meat for sale in Pusan, South Korea.

### South Korea Sells Baleen Whale Meat

Pusan, South Korea's second largest city, is heavily influenced by Japanese culture, which prizes whale-meat cuisine.

Following reports that whale meat was commonly for sale in Pusan's Chagalch'i Market, the country's largest, oldest and best known fresh-seafood market, a TRAFFIC investigator visited the city on 11 June 1993. Whale meat was found at three stalls in the market. Merchants refused to answer questions about the origin or cost of the meat, and were reluctant to have photographs taken. Multiple throat grooves apparent on some of the meat confirm that it was taken from the Balaenopteridae family of whales, all of which are listed in CITES Appendix I. This family, which includes Minke *Balaenoptera acutorostrata* and Bryde's Whales *B. edeni*, is characterized by a dorsal fin and numerous conspicuous throat grooves.

Whale meat was also seen for sale at a department shop supermarket in Pusan. Prominent signs advertised the meat as that of "small" whales, priced at W50 000 (US\$62.50) a kg.

When South Korea announced in early 1993 that it would accede to CITES by mid-year, Government officials proposed taking reservations on seven species, including Minke and Bryde's Whales. However, when South Korea acceded to CITES on 9 July, it entered reservations on bears and musk deer only.

TRAFFIC International

### Fate of Seals Uncertain

There have been reports of an increased demand for seal penises for use in traditional Chinese medicine and for their alleged aphrodisiac qualities.

Protesters led by the International Fund for Animal Welfare marched on the Canadian High Commission in London recently, calling for an immediate ban on the export of seal penises after reports that a Chinese syndicate had advertised in a Newfoundland newspaper for the penises of up to 60 000 seals for export to the Far East. The head of processing at Newfoundland's Department of Fisheries told the *The Independent* newspaper that organs, including penises and livers, were taken from some seals killed last season in Newfoundland and Labrador for use in Chinese medicines. However, as only the whole seals can be purchased, each of which weigh over 45 kg, he doubted whether it would be economically viable to export the animals solely for the use of their penises and stated that only 10% to 12% of the seals killed are the large adult males which are suitable. He added that a Chinese national had been granted a licence to purchase whole seals during the last hunting season - from February to June - but had never used it and the licence had now expired.

Although there is a quota to kill up to 186 000 Harp *Pagophilus groenlandicus* and Hooded Seals *Cystophora cristata* each year along the coast of Labrador and Newfoundland, fewer than 10 000 seals have been taken in recent years owing to the collapse of the market for seal pelts.

In Windhoek, Namibia, a Chinese restaurant owner has been arrested after buying 313 stolen seal penises and testicles. He claimed that he had lost his money and the merchandise and had consequently turned state witness in the case. He had planned to export the penises to Hong Kong.

*The Independent (UK)*, 9 November 1993;  
TRAFFIC International

### Turtles on Sale in Egypt

During a visit to Egypt in late 1992/early 1993, Dimitrios Dimopoulos of the Sea Turtle Protection Society in Greece, encountered whole stuffed turtles and decorative items made from tortoiseshell on sale in a number of souvenir outlets. Polished sea turtle carapaces of Hawksbill Turtle *Eretmochelys imbricata* and Green Turtle *Chelonia mydas* were observed in a shop in Cairo and, in Luxor, two juvenile stuffed Hawksbills and two stuffed Hawksbill hatchlings were on sale in a tourist shop. In Hurghada, on the Red Sea, all five tourist shops encountered contained stuffed sea turtles (mostly Hawksbills) or carapaces of Green, Hawksbill and Loggerhead Turtles *Caretta caretta*; sea turtle flippers were also on display. One carapace seen was thought to be of a ridley *Lepidochelys*. On the waterfront in Alexandria a freshly slaughtered adult Loggerhead was observed. All species recorded are listed in CITES Appendix I.

TRAFFIC Europe

## ICCAT Reduces Tuna Quotas

On 12 November 1993, the International Commission for the Conservation of Atlantic Tunas (ICCAT) concluded its annual meeting by reducing the catch quota for western Atlantic Northern Bluefin Tuna *Thunnus thynnus*. The 1994 quota will be 1995 t, down 15% from 1993; the quota for 1995 will be 1200 t, down 50% from 1993. Japan agreed to a temporary reduction of its traditional share of the western Atlantic quota - from 26% to 12% - and will halve its catch in the mid-Atlantic during the same period.

TRAFFIC USA

## Southern Bluefin Tuna TAC Unchanged

The global Total Allowable Catch (TAC) of Southern Bluefin Tuna *Thunnus maccoyi* for the 1993/94 season for the three main countries involved in the industry has been maintained at the previous year's level: Australia: 5265 t; Japan: 6065 t; New Zealand: 420 t.

These allocations were announced following meetings of the tripartite Convention for the Conservation of Southern Bluefin Tuna, in October and November 1993.

In October, the report to management of the 12th meeting of Australian, Japanese and New Zealand scientists on Southern Bluefin Tuna found that the condition of Southern Bluefin Tuna stocks was in serious decline and changes in the TAC were needed if assurance was to be given that stocks would be restored to biologically safe levels (considered to be those of 1980). The report raises serious doubts about the ability of the population to recover under current catch levels, and with the current high catches of countries not party to the Convention. Analyses show that the parental biomass is expected to remain below the 1980 level for many years, so that the risk of abrupt recruitment decline remains high. Virtual Population Analysis (VPA) results indicate that the parental biomass in 1992 was 10%-20% of the 1965 level and 22%-43% of the 1980 level; allowing for a change in growth, the results indicated that the decline had continued through 1992. The report recommends that, until a review is completed, an interim catch level should be set so that annual catches in the future will be initially limited to a fraction of those currently agreed.

In November, the second Southern Bluefin Tuna Industry - Management - Research Workshop was held in Hobart, Australia, at which the above scientific evidence was discussed and the viewpoint of industry that stocks were recovering was presented. A meeting between Australia, Japan and New Zealand will commence on 17 January 1994, with each country represented by a delegation of six scientists. A scientific report to management will be reviewed in order to determine the accuracy of the population analysis methods used. Industry has called upon an independent assessment of the report which will be presented at the January meeting. The outcome regarding the status of stocks will be

communicated to management in May 1994, at which time all three countries hope to have completed ratification of the Convention for the Conservation of Southern Bluefin Tuna, signed in May 1993 (see *TRAFFIC Bulletin* 14(1):8).

TRAFFIC Oceania

## Australia Exceeds Tuna Quota

New Zealand's Fisheries Minister, Doug Kidd, has protested at a decision taken in August 1993 by Australian Fisheries Minister, Michael Lee, to allow an additional 100 t on top of Australia's quota for Southern Bluefin Tuna, which had already been exhausted for that year. Mr Lee's decision was taken after he was approached by south coast fishermen in New South Wales who had spotted tuna in an area where the species had not been seen in numbers large enough to catch for some years. He stated that the extra share would be deducted from next year's quota. His office has denied a breach of the agreement made between Australia, New Zealand and Japan to strictly control the Southern Bluefin Tuna fishery.

*The Canberra Times (Australia), 10 September 1993*

## Orange Roughy Falls in Chatham Rise

By ignoring Government recommendations over the past six years to reduce the Orange Roughy *Hoplostethus atlanticus* fishery on Chatham Rise, New Zealand, Minister Doug Kidd may be in breach of his own legislation. The population of Orange Roughy in Chatham Rise is estimated to be between 14% and 20% of the level of a decade ago and there are concerns that the stock could collapse in the next few years (see also *TRAFFIC Bulletin* 12(3):35; 13(3):86). In spite of this, in September 1993, Kidd decided not to reduce the allowable catch for the Chatham Rise fishery from 14 000 t to 5900 t, as recommended by the Ministry of Fisheries (MAF) and has, instead, postponed any reduction in the catch until next year.

Last year, the Parliamentary Commissioner for the Environment found that Kidd's decisions on the size of the catch "were unlawful". MAF states that the Minister "was required to set a Total Allowable Catch that will allow the stock to move towards a level that would support the maximum sustainable yield. The stock assessment developed by the MAF working group suggests the stock biomass is below the level that could support the maximum sustainable yield".

In the meantime, Mr Kidd has moved to reduce the catch limit of Orange Roughy north of the Chatham Rise - in an area where the industry itself had already proposed a reduction because of the low numbers of Orange Roughy there.

*Forest and Bird Conservation News, No. 82, November 1993*

## MARINE FILE

### Sea Cucumber Harvest Makes Waves

The dried flesh of sea cucumbers *Isostichopus fuscus*, (also known as trepang or bêche-de-mer), is popular in Asian cuisine, where it is used to thicken and flavour soups (see also *TRAFFIC Bulletin* 14(1):10). This specialized demand and the consequent decline in numbers of sea cucumbers in the Galápagos, where harvesting has been estimated at up to 150 000 specimens a day, is causing concern not only for local populations of this species but also for the effect on the ecology of one of the world's largest marine reserves.

Little is known about the ecology of these slow-moving animals, although by ingesting mud and debris to extract nutrients and thereby aerating the sediment and recycling nutrients, they do help to maintain the health of the seabed. In addition, the vast numbers of larvae form part of the zooplankton that sustains a wide range of marine animals.

Harvesting of sea cucumbers in the Galápagos started as recently as 1992 following their depletion along the coast of mainland Ecuador as a result of collection. However, a ban on such practices was soon instituted by the Government and a management plan set up for the Galápagos Marine Resources Reserve, an area covering more than 70 000 km<sup>2</sup>. Under pressure from local business interests, the National Fisheries Development Council in Ecuador is now pressing the Government to revoke the ban. The Charles Darwin Foundation for the Galápagos Islands (CDF), which advises the Ecuadorian Government on conservation in the Galápagos and, through the Charles Darwin Research Station conducts research in the area, strongly opposes lifting the ban. Such a decision, according to Craig MacFarland, president of CDF, would overturn the management plan and be the first step in dismantling the reserve and eventually undermine 40 years of conservation effort in the Galápagos.

In April 1993, IUCN sent a team of scientists to survey sites between the islands of Fernandina and Isabela and found that fishing in some areas had virtually extirpated populations of sea cucumbers, although they could not quantify the long-term ecological effects of such exploitation. They reported that local fishermen had been taking sea cucumbers at a rate of 130 000 to 150 000 a day and predicted that, if this continued, populations in the entire archipelago would be completely destroyed within three or four years. According to MacFarland "in absolutely no case anywhere in the world has a sea cucumber fishery been maintained and sustainable. Areas in Micronesia, fished heavily before and during the Second World War, have still not recovered. Neither local nor national fishermen, fisheries and economies derive much benefit from these non-traditional ventures. Only the few people with connections to the Asian markets reap a profit..." he says.

The Government must consider not only the protection of the marine environment and the income generated by nature tourism - the country's fourth largest foreign earner - but also the livelihood of about 320 local fishermen and their families. A Presidential Advisory Commission on the Environment has been set up to examine the issue and provide further guidance.

*New Scientist*, 11 December 1993

## LEGISLATION FILE

### CITES NOTIFICATION

The CITES Standing Committee has recommended to all Parties that they suspend imports from each State listed below, of specimens of the species indicated until it has implemented the recommendations of the Animals Committee, in accordance with Resolution Conf. 8.9, relating to species subject to significant levels of trade:

**Argentina:** Guanaco *Lama guanicoe* (excluding stock that has been registered and for which permits have been confirmed by the Secretariat.

**Azerbaijan, Latvia, Lithuania, Moldova and Ukraine:** Lynx *Felis lynx*.

**Cameroon and Guinea:** African Grey Parrot *Psittacus erithacus*.

**China:** Leopard Cat *Felis bengalensis*; Rat Snake *Ptyas mucosus*.

**Ghana, Togo:** Royal Python *Python regius*.

**India:** Indian Bullfrog *Rana tigrina*; Six-fingered Frog *R. hexadactyla*.

**Indonesia:** Lesser Sulphur-crested Cockatoo *Cacatua sulphurea*; Rat Snake *Ptyas mucosus*.

**Peru:** Red-masked Conure *Aratinga erythrogenys*.

**Tanzania:** Fischer's Lovebird *Agapornis fischeri*; Pancake Tortoise *Malacochersus tornieri*.

*CITES Secretariat Notification to the Parties No. 775, 23 November 1993*

### RECENT ADDITIONS TO EU CITES TRADE BANS

The CITES Committee of the European Union has agreed the following measures in respect of the import of CITES species into the EU:

**Cameroon:** the import of African Grey Parrots *Psittacus erithacus* has been suspended as from 28 September 1993 (see above).

**Ghana:** the import of Royal Pythons *Python regius* has been banned (see above).

**Irian Jaya:** the following ratched Birdwing butterflies may not be imported: *Ornithoptera priamus*; *O. goliath*; *O. tithonus* and *Troides oblongo maculatus*.

**Solomon Islands:** the import of Pacific Monitors *Varanus indicus* has been banned with effect from 28 September 1993.

The Committee agreed the following trophy quotas for African Elephant *Loxodonta africana* for 1994: Namibia-112 tusks; Tanzania-50 tusks; Cameroon-80 animals; South Africa-41 animals; Zimbabwe-250 animals.

*CITES Newsletter of the UK Department of the Environment*, No. 6, December 1993

## LEGISLATION FILE



© WWF/Ian Craven

Importation of *Ornithoptera priamus* from Irian Jaya into the EU is not permitted.

### BAHAMAS

The Bahamas' Parliament has adopted a law which prohibits long-line fishing in Bahamian waters without a licence issued by the ministerial cabinet. The Prime Minister of the Bahamas has stated during a Parliamentary session that no such licences would be granted.

Howard Latin in litt. to Mark Spalding, World Conservation Monitoring Centre, 13 December 1993

### ETHIOPIA

Ethiopia's Ministry of Natural Resources, Development and Environment Protection suspended all hunting of wildlife in the country on 29 August 1993. The move affects both local and sport hunting, and comes at a time when the Ethiopian Government is undergoing a general reorganization in which regional wildlife authorities are likely to be given greater management responsibilities. A task force under the Ethiopian Wildlife Conservation Organisation, the country's leading wildlife authority, has been instructed to conduct comprehensive wildlife surveys to determine the distribution and demographic variables for individual species formerly hunted under licence. The intention is to reactivate sport hunting under a sound policy of sustainable utilisation at a future date.

In recent years, Ethiopia's sport hunting policy has been questioned by government authorities in the USA and the EU, where restrictive measures to curtail the importation of trophies of African Elephant *Loxodonta africana* have been implemented. Elephants have constituted about 75% of Ethiopia's sport hunting market, but certain endemic ungulate species, such as the Mountain Nyala *Tragelaphus buxtoni* and Menelik's Bushbuck *T. scriptus meneliki*, also attracted foreign hunters to the country.

TRAFFIC East/Southern Africa

### INDIA

India banned the sale of certain furs in 1979. However, a request by fur traders in Delhi to be allowed to continue displaying their fur items for sale until stocks were run down, led to an indefinite reprieve in 1987 by the Delhi government. In 1993, following a petition by TRAFFIC India and WWF India, the ban was reinstated; because of delays in implementing the ban, however, such goods continued to be offered for sale, and the opportunity existed for traders to continue selling articles which could then be replaced with fresh supplies and included as part of the legal stock.

On 3 December 1993, in response to a further petition by TRAFFIC India and WWF India, the Delhi High Court has issued a directive to the Chief Wildlife Warden of Delhi, calling for traders to seal up their fur stocks by the end of January 1994 and to remove them from display, pending a final decision.

TRAFFIC India has made a request to all Indian states to seal up stocks of fur and ivory.

TRAFFIC India

### JAPAN

New legislation has been enacted in Japan which will offer protection to six marine species by prohibiting their capture, possession or sale without a permit issued by the Minister of Agriculture, Forestry and Fisheries. These species are: Finless Porpoise *Neophocaena phocaenoides*, Blue Whale *Balaenoptera musculus*, Bowhead Whale *Balaena mysticetus*, Dugong *Dugong dugon*, Olive Ridley Turtle *Lepidochelys olivacea*, and Leatherback Turtle *Dermochelys coriacea*, all of which are listed in CITES Appendix I.

TRAFFIC Japan

### NEPAL

Nepal has introduced stronger penalties for violation of its wildlife laws and is offering rewards for information leading to the arrest of offenders.

The law prohibits the killing of, or trade in, the Tiger *Panthera tigris*, Clouded Leopard *Neofelis nebulosa*, Snow Leopard *Panthera uncia*, elephants, rhinoceroses, Gaur *Bos gaurus*, musk deer *Moschus* and muntjac *Muntiacus*. Persons found guilty of killing or wounding any of the

## LEGISLATION FILE

aforementioned are liable to fines of Rs.40 000-Rs.75 000 (US\$1200-US\$2250), or a prison term of one to 10 years. Illegal trade in these animals or their parts could result in persons being liable to fines of Rs.50 000-Rs.100 000, or receiving a prison term of five to 10 years.

Anyone providing information leading to the arrest of offenders may be rewarded with up to Rs.50 000.

*Cat News No. 19, September 1993*

### PHILIPPINES

On 19 February 1993, Resolution No. 33 was enacted in Palawan province in the Philippines and prohibits the capture, collection, possession, purchase, sale and shipment of live marine coral-dwelling organisms. Fishes specifically covered by the ban include the parrotfishes Scaridae and triggerfishes Balistidae, sold globally as aquarium fishes, and several species of grouper, primarily exported to Hong Kong as live food fish. Invertebrates now protected include small lobsters, Giant Clams *Tridacna gigas*, mother-of-pearl oysters *Pinctada margaritifera* and Tiger Prawns *Peneaus monodon*.

This far-sighted measure was imposed in an attempt to protect Filipino corals, only 5% of which are classified as being in excellent condition. Most of the newly banned animals were previously caught using illegal and destructive fishing techniques such as dynamite or sodium cyanide. Cyanide fishing has been identified as one of the main causes of coral reef destruction in the Philippines, so this ban could provide considerable habitat protection. Violating the ordinance can bring substantial financial penalties (up to 5000 pesos (US\$190), imprisonment for six to 12 months and/or confiscation of equipment.

*Amanda Vincent, Department of Zoology, University of Oxford*

---

The Philippines has notified the Commission of the European Union that, with effect from 1994, it will no longer permit the export of wild-caught primates.

*UK Department of the Environment CITES Newsletter No. 6, December 1993.*

### UNITED ARAB EMIRATES

In November 1993, the Central Government of the United Arab Emirates banned the import of Houbara Bustard *Chlamydotis undulata* (CITES Appendix I), following a Cabinet decision.

*TRAFFIC India*

### SOUTH AFRICA

Strict measures to control illegal trade in indigenous plants were approved in Natal in October 1993. The joint parliamentary committee on Natal Provincial Affairs

adopted new regulations that will control the exchange of individual plant specimens and bring penalties for illegal plant trade in line with those of the Orange Free State and the Cape Province. Offenders may now be liable to fines of up to R100 000 (US\$30 000) and gaol terms of 10 years.

According to David Newton, Director of TRAFFIC East/Southern Africa's office in South Africa, several species, including the Waxed Cycad *Encephalartos cerinus*, have become extinct in the wild as a result of illegal trade. "It is critical that more attention is paid to the trade in native plants and the actions of the Natal Administration are an important step in this direction" he says.

*Southern African Nature Foundation Press Release, 20 October 1993.*

### ZAIRE

By letter dated 20 July 1993, the Zairian Minister of Environment, Nature Conservation and Tourism informed the CITES Secretariat of the lifting of the suspension of the issuance of permits for fauna specimens with effect from 1 January 1993.

An annual export quota of 10 000 African Grey Parrots *Psittacus erithacus* has been maintained.

*CITES Secretariat Notification to the Parties No. 762, 31 August 1993; CITES Secretariat*

### ZIMBABWE

All CITES Appendix II populations of the Nile Crocodile *Crocodylus niloticus* were recently downlisted on the US *Endangered Species Act (ESA)* from 'Endangered' to 'Threatened'. However until a new special rule can be finalized, only skins and products of the Zimbabwe population may be imported into the USA, under special conditions, and only directly from Zimbabwe.

The Zimbabwe population of the Nile Crocodile was downlisted on the *ESA* in 1992.

*TRAFFIC USA; Federal Register, 23 September 1993*

### Wildlife Penalties in Victoria, Australia

In *TRAFFIC Bulletin* 13(3):90, we reported on new wildlife regulations that came into effect in Victoria, Australia, on 30 June 1992. In the report, we omitted to mention that, with the introduction of the new regulations, a new Section 50 came into operation which provides for the issuing of import/export permits for the movement of any wildlife into or out of Victoria. This system gives a significant boost to Victoria's capacity to monitor the movement of wildlife in trade: over 2500 permits were issued last financial year. We are grateful to the Department of Conservation and Natural Resources of Victoria for pointing out this omission.

# Rhino Horn in Taipei, Taiwan

Jonathan Loh and Kirsty Loh

*Under the 1989 Wildlife Conservation Law in Taiwan, all import, export, trade or display for sale of rhino horn was prohibited unless expressly permitted by the Council of Agriculture, the principal authority responsible for the protection of endangered species. In August 1990, anyone possessing rhino horn was required by the COA to register their stock; no permits have ever been issued to allow the sale of rhino horn, however. Nevertheless, surveys carried out by TRAFFIC and WWF researchers in Taipei showed that pharmacists continued to sell rhino horn in 1990 (Martin and Martin, 1991) and in 1991 (Nowell et al., 1992). In May 1993, TRAFFIC Taipei carried out a spot check to determine whether and to what extent rhino horn was being sold in Taipei following a public announcement in November 1992 by the Taiwanese Government to reaffirm the ban. This report records the findings of the survey and outlines recent measures taken by Taiwan to discourage consumption of rhino horn.*

## BACKGROUND

On 12 November 1992, WWF-US and the National Wildlife Federation filed a petition with the US Government under the Pelly Amendment to the *Fishermen's Protection Act, 1967* to impose trade sanctions upon Taiwan for failing to control the trade in rhino horn in compliance with CITES requirements. At the same time, a campaign was launched by UK environmental groups requesting the public to boycott Taiwanese goods for the same reason.

In response, on 19 November 1992, the Council of Agriculture (COA) of the Executive Yuan announced that permits to import, export or trade rhino horn would no longer be issued (although no such permits had ever been issued), amounting effectively to a total ban. This ban was widely publicized in the local media, as was the news of the seizure of a shipment of 21 rhino horns at Chiang Kai Shek airport, Taipei, in December 1992, and subsequently no rhino horns or rhino horn medicine could be seen openly displayed for sale in any of Taipei's pharmacies.

In spite of these measures, in March 1993, the Chairman of the CITES Standing Committee wrote a letter to the authorities in Taiwan noting that Taiwan had not implemented measures sufficient to meet the terms of CITES Resolution Conf. 6.10 aimed at stopping the trade in rhino horn. These included the prohibition of all trade, the destruction of stocks and the enforcement of a total ban. It was the first time that CITES had directly addressed Taiwan which is neither recognized as a nation state by the United Nations nor, therefore, a member of CITES.

## INTRODUCTION

Surveys carried out in Taipei showed that 51% of pharmacists continued to sell rhino horn or horn pieces in 1990 (Martin and Martin, 1991) and 72% of pharmacists possessed rhino horn, pieces or powder in 1991 (Nowell et al., 1992). However, these two surveys used very different methodologies, the first involving the physical examination of rhino horn, discounting all powder which claimed to be rhino horn owing to the impossibility of identification (E.B. Martin, pers. comm., 1993), and the second involving simple enquiry as to whether or not rhino horn was available. It is therefore impossible to draw conclusions about market trends from these two surveys.

Where previous surveys had relied on visits to pharmacists by foreign investigators or students, the heightened awareness of retailers to the rhino horn issue discounted such an approach for any further investigation. Consequently, any continuing trade had become very much more difficult to monitor. In May 1993, TRAFFIC Taipei, assisted by local Chinese residents, undertook a brief inspection of pharmacies and medicinal wholesalers to find out whether rhino horn was still available in Taipei and, if so, to compare prices with those recorded in 1991.

## METHODS

Pharmacies in Taipei municipality were visited between 24 and 27 May 1993 by eight local residents, aged between mid-30s to over 60. Each asked either for "lin yang hsi niu shui" (a mixture of Saiga Antelope *Saiga tatarica* horn/rhino horn), or for rhino horn powder alone, both of which are used as remedies in the treatment of high fever. Prices for rhino horn and Saiga Antelope horn were ascertained separately where possible. Investigators also asked whether the rhino horn was "water horn" - a term used by the Chinese medical community to refer to African horn, or "fire horn", which comes from the three Asian species. The investigators selected 22 pharmacies in which to carry out their research.

The authors also conducted interviews with wholesalers in the islands's principal wholesale traditional medicine market, situated on Ti-Hwa Street, Taipei, in order to determine the wholesale price of rhino horn.

## RESULTS

It should be appreciated when interpreting these results that a sample of 22 pharmacies is small in comparison with the total number of pharmacies in Taipei and is not necessarily representative.

Rhino horn powder is often mixed or substituted with cheaper ingredients such as Saiga Antelope horn or Water Buffalo *Bubalus bubalis* horn. During the survey, rhino horn powder, sometimes mixed with Saiga Antelope horn

Pharmacy	African powder (US\$/g)	Asian powder (US\$/g)
1	-	-
2	-	-
3	5.13	-
4	-	-
5	4.10	unknown <sup>1</sup>
6	-	51.28
7	5.13	-
8	unknown <sup>1</sup>	-
9	5.13	-
10	-	-
11	-	30.77
12	-	-
13	-	-
14	-	(41.03)
15	-	-
16	-	-
17	-	unknown <sup>1</sup>
18	-	-
19	-	-
20	-	-
21	-	-
22	(4.10)	-
Average	4.72	41.03

Table 1. Retail price and availability of rhino horn in Taipei municipality, 24-27 May 1993.

<sup>1</sup>Rhino horn powder was bought ready-mixed with powdered Saiga Antelope horn and the price for the rhino horn powder alone was not ascertained. Figures in brackets represent prices of rhino horn powder quoted by pharmacies where none was available immediately.

The wholesale price of African rhino horn in Ti-Hwa Street was reported to be US\$1600 a kg.

powder, or a substance which the pharmacist claimed to be rhino horn powder, was found to be readily available in eight pharmacies (36%) and a small quantity of powder (3.75 g) was purchased in five out of the eight. Only African horn powder/mixture was purchased. Asian horn was reported present in four pharmacies but not bought. Without conducting chemical analysis in a laboratory, facilities currently unavailable in Taipei, it is not possible to determine whether the powders purchased consist of genuine or fake rhino horn.

Two pharmacists claimed that although they had no rhino horn they would be able to obtain it within one or two days; these pharmacists were not included in the results of the survey. Pharmacies 5, 6, 7, 11, 12, 13 and 14 (see Table 1) are all located in or close to Ti-Hwa Street. Of these seven pharmacies, four were in possession of rhino horn.

The retail price of African rhino horn varied between NT\$400 and NT\$500 a "chien" (3.75 g), average NT\$460 a chien, equivalent to approximately US\$4.72 a gram. The price of Asian rhino horn ranged from NT\$3000 to NT\$5000 a chien, an average of NT\$4000 a chien, equivalent to US\$41.03 a gram (see Table 1). These data are based on a sample size of five African horns and three Asian horns.

Some pharmacists who said they did not possess rhino horn may not have been telling the truth. For example, pharmacy 16 claimed not to sell rhino horn any more but said he had done in the past. Pharmacy 10 claimed not to sell rhino horn because it is a prohibited substance. Pharmacist 20 was possibly suspicious and claimed not to have rhino horn although a wooden sign in the shop advertised "Saiga and rhino horn". Pharmacist 22 claimed to have sold rhino horn in the past, and could still get it if the buyer wanted, but no longer stocked it for fear of arrest. Substitutes to treat fever, such as Saiga Antelope horn, Water Buffalo horn and herbal mixtures, were recommended instead. The investigator returned two days later but the pharmacist still did not have any rhino horn in stock. One pharmacist (no.9) claimed to have ground a whole horn into powder for fear that the Department of Health might discover it.

## DISCUSSION

Although rhino horn is still available in Taipei, it would appear that the retail price of this commodity has fallen considerably since the last survey was conducted in 1991: from an average of NT\$876 a chien (US\$8.98 a gram) in 1991 (Nowell *et al.*, 1992) to NT\$460 a chien (US\$4.72 a gram) for African horn, a reduction of 47% (Figure 1) and from NT\$6320 a chien in 1991 (Nowell *et al.*, 1992) to NT\$4000 a chien (US\$41.03 a gram) for Asian horn, a reduction of 37% (Figure 2).

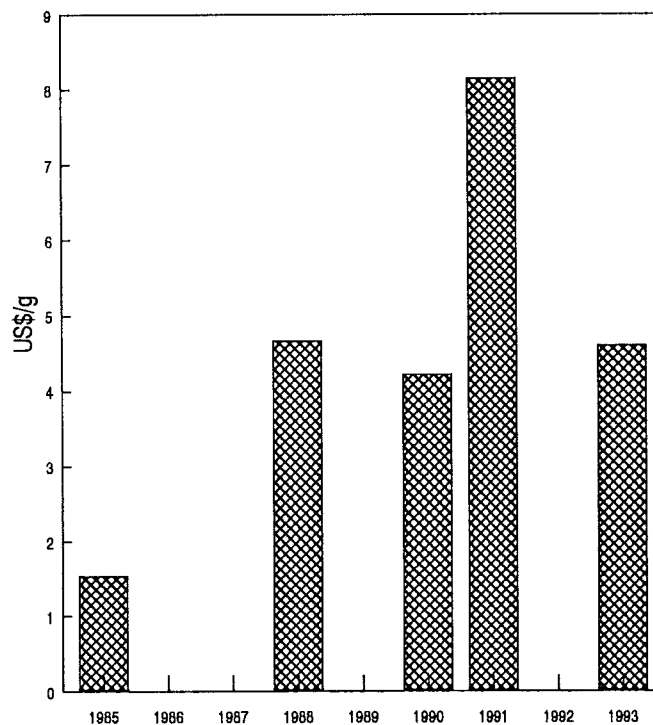


Figure 1. Retail price of African rhino horn in Taipei.

Sources: 1985-1990: Leader-Williams, 1992; 1991: Nowell *et al.*, 1992; 1993: survey by the authors.



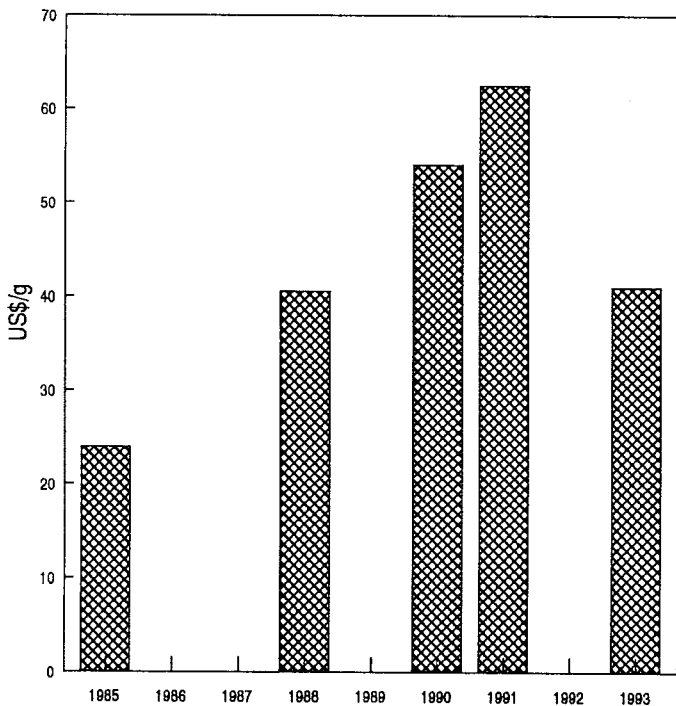


Figure 2. Retail price of Asian rhino horn in Taipei.

Sources: 1985-1990: Leader-Williams, 1992; 1991: Nowell, *et al.*, 1992; 1993: survey by the authors.

The wholesale price of African rhino horn has also fallen considerably. Interviews with medicinal wholesalers by Nowell *et al.*, in 1991, revealed the wholesale price to be about US\$3000 a kg. The current wholesale price of US\$1600 a kg indicates a reduction of 47%, closely in line with the change in retail prices. One explanation for the observed data is that, as the Taiwanese economy grew and businesses prospered during the 1970s and 1980s, pharmacists would invest spare cash in a whole rhino horn if they earned enough to do so. A rhino horn represented an investment which could ensure future supply and

provide a steady, if modest, income because the horn was dispensed in small amounts as powder. Furthermore, a rhino horn has always been regarded, especially by the traditional Chinese medical community, as an exotic, semi-mystical object of considerable life-giving properties which, in some family-owned pharmacies, was handed down from generation to generation. A rhino horn was therefore a highly desirable commodity to those pharmacists who could afford it. By 1991, the total quantity of rhino horn possessed by retail pharmacists in Taiwan was estimated to be 4667 kg (Milliken *et al.*, 1993), an amount greatly in excess of the annual demand for rhino horn medicine, which is estimated to be in the order of 200 kg to 400 kg (Milliken *et al.*, 1993). As the rate of growth in the economy slowed over the past two years, however, fewer pharmacists have wanted to invest in rhino horn and consequently the wholesale price has fallen dramatically. The retail price, which was never demand-driven at its peak, has fallen in line with the wholesale price.

### CONCLUSION

It is clear that despite the efforts of the authorities in Taipei, rhino horn is still available illegally. As has been noted, the authors cannot be certain that the powders purchased contained genuine rhino horn or, given the recent prohibition on trade, that each of the pharmacists visited was being candid regarding whether or not they were in possession of rhino horn. The fact that eight out of 22 were apparently in possession is indication however that rhino horn is still available on the Taipei market to some extent.

### POSTSCRIPT

Since the TRAFFIC survey was conducted, and under the threat of trade embargoes by the USA and CITES, in June 1993 the COA agreed to implement a number of measures to improve the enforcement of the 1989 *Wildlife Conservation Law* (WCL), which it had been urged to take



Rhino horns seized at Chiang Kai-shek International airport, Taipei, in September 1993.

© Taiwan Customs





Stickers have been issued by the Government to those pharmacists who have signed a written declaration that states that neither rhino horn nor Tiger products are for sale in their shops.

for a number of years by TRAFFIC and others. These include:

- the establishment of a specialized task force dedicated to the enforcement of the WCL;
- an increase in the fines under the WCL for trafficking rhino horn and other products or parts of endangered species, from NT\$30 000 to NT\$300 000, and an increase in the maximum prison sentence from one to three years;
- the offer of a reward of NT\$20 000 in return for information leading to the seizure of rhino horn.

The deadline by which Taiwan is required to meet the USA's terms under the Pelly Amendment has been extended to March 1994. At the time of writing it remains to be seen whether Taiwan will comply by undertaking those actions it has said it will take in order to avoid trade sanctions.

Apart from the promised new measures under the law, the police have taken a number of steps intended to lead to improved enforcement. Officers have been sent to South Africa, the principal source of African rhino horns entering Taiwan, to liaise with the responsible authorities in that country and a number of seizures have also been made recently: in September 1993, a Bhutanese princess carrying 22 Indian Rhino *Rhinoceros unicornis* horns in her suitcase was apprehended by Customs officers at Chiang Kai Shek International airport. She claimed that she had bought the horns in Bhutan, had been unable to find a buyer in Hong Kong and so had come to Taipei to sell them. She has been charged under the *Wildlife Conservation Law* and is likely to be sentenced to one year in prison. It is notable that four people found guilty of rhino horn smuggling last December have been charged with forgery of Customs documentation rather than contravention of the *Wildlife Conservation Law* as the penalties for such offences are more severe.

The Government is also making efforts to persuade pharmacists not to sell products containing rhino horn or Tiger parts and has issued stickers to those who sign a written declaration which states that such products are not for sale in their shops.

#### REFERENCES

- Leader-Williams, N. (1992). *The World Trade in Rhino Horn: a Review*. TRAFFIC International. Cambridge, UK
- Martin, E.B. and Martin, C.B. (1991). Profligate spending exploits wildlife in Taiwan. *Oryx* 25(1):18-20.
- Milliken, T., Nowell, K. and Thomsen, J.B. (1993). *The Decline of the Black Rhino in Zimbabwe: Implications for Future Rhino Conservation*. TRAFFIC International. Cambridge, UK.
- Nowell, K., Chyi, W.L. and Pei, C.J. (1992). *The Horns of a Dilemma: the Market for Rhino Horn in Taiwan*. TRAFFIC International. Cambridge, UK.

Jonathan and Kirsty Loh, TRAFFIC Taipei

## Study on Bear Gall Bladders for Sale in Hong Kong

Amy Lau, Clement Ngai and David S. Melville

*Bear bile is highly valued in traditional Chinese medicine. It may have entered the Chinese pharmacopoeia as long ago as 3000 years. Today, it is used as an ingredient in some 80 Chinese prescriptions and numerous Chinese manufactured medicines, primarily for reducing fever and inflammation. All species of bear are listed in CITES; amendment to the legislation to include the American Black Bear *Ursus americanus*, listed in Appendix II in 1992, has still not been enacted in Hong Kong, however. As it is only possible to determine the difference between gall bladders of bear species in the laboratory, shopkeepers may claim that those offered for sale in the Territory are derived from the American Black Bear or other species whose gall bladders are visually similar, but whose trade is not controlled.*

*The purpose of this project was to determine the authenticity of 'bear' gall bladders and bile offered for sale in the Hong Kong market.*

### INTRODUCTION

The prescription of bear bile first appeared in writing in Yao Xing Ben Cao's seventh-century text, *Materia Medica of Medicinal Properties* (Bensky and Gamble, 1986). According to the tenets of traditional Chinese medicine, bear bile is a 'cold' medicine used to clear 'heat' and to detoxify various forms of 'fire'. This 'fire' can be manifested externally as burns, or internally as liver disease. 'Cold' medications fight fever, lower body temperature, reduce inflammation, and detoxicate.

Bear bile used medicinally is extracted from the dried gall bladder in the form of crystals, or salts, and taken in chunks melted on the tongue, dissolved in alcohol, mixed with other ingredients such as musk and pearl, taken in capsule/tablet form, or blended into ointments and creams (Mills and Servheen, 1991). Farmed bears are 'milked' periodically for their bile which may also be consumed in liquid form.

There are eight species of bear worldwide. The trade in seven species (including parts such as gall bladder and bile) is controlled under the *Animals and Plants (Protection of Endangered Species) Ordinance (Cap. 187)* of Hong Kong. However, amendment to the above legislation to control the trade in the American Black Bear, listed in CITES Appendix II in 1992, is still being processed 18 months later. Consequently there is no control over the importation, possession or export of gall bladders or bile from this species in Hong Kong. As it is effectively impossible to establish the specific identity of gall bladders/bile

offered for sale in medicine shops in the Territory, shopkeepers can claim that all stock is derived from American Black Bears and thus not subject to control. They can also claim bear gall bladders are from other animals, such as pigs, as the parts are visually similar. Only laboratory analysis can distinguish positively bear gall bladders from other species.

### METHODS

Samples, each of at least four grams, in the form of crystalized bile salts cut from dried whole/partial gall bladders, were purchased in July 1991 from Chinese medicine/tonic shops located in different parts of Hong Kong by an investigator posing as an ordinary customer who requested 'bear' bile. Details of the prices of bile and the addresses of the shops were noted. Other information, such as country of origin, was recorded as far as possible, based on conversations with shop staff.

All samples were sent to the US Fish and Wildlife Service National Fish and Wildlife Forensics Laboratory, USA, for analysis. Thin layer chromatography (TLC) was used to distinguish bear bile from that of other species. Bile acids yield a distinctive map on silica paper. High pressure liquid chromatography (HPLC) confirmed the TLC results. The analyses were performed from August 1991 to April 1992. The species origin of the samples that proved not to be from bear was not investigated in detail.

### RESULTS AND DISCUSSION

#### *Correlation between authenticity and price*

A little over one-third (28 out of 81) of the 'bear' samples were characterized as genuine samples belonging to the family Ursidae (see Table). The identity of the others was not specifically determined, but some at least



Bear gall bladders

© C. Servheen

probably came from domestic pigs *Sus scrofa* (Espinoza *et al.*, 1993). The average price of all samples was HK\$4430 a *tael*<sup>1</sup> (US\$15 a gram). The highest price for a genuine sample was HK\$10 000 a *tael*, the cheapest genuine sample cost HK\$500 a *tael* and the average price was HK\$6243 a *tael*. For non-genuine bear bile, the most expensive sample was HK\$18 000 a *tael*, the cheapest was HK\$156 a *tael* and the average was HK\$3390 a *tael*.

The average prices are considerably higher than those noted by Mills and Servheen (1991) in November 1990. The most expensive sample they bought then was about HK\$6200 a *tael* (US\$30 a gram). The cheapest cost HK\$206 a *tael*. The average price in that survey was about HK\$2500 a *tael*. The increase in price noted in the present survey may be a result of high inflation and a rise in demand.

More genuine bear bile samples were found in the medium to high price range. Between the range of HK\$7500-HK\$18 000 a *tael*, 12 out of 15 samples were from bear species. Below the price of HK\$3000 a *tael*, only 2 out of 35 samples were genuine (see Table). But there is no guarantee that the more expensive samples are more likely to be real. Three out of the four most expensive samples were found not to be bear bile.

#### Biochemical nature of the samples

When analysed using high pressure liquid chromatography, bile samples from American Black Bears *Ursus americanus* show three peaks corresponding to two suspected primary bile salts (tauroursodeoxycholic acid [Ursodeoxy-cholyl-aurine] and taurochenocholic acid [Chenodeoxycholyl-aurine]) and one secondary bile salt (taurocholic acid [Cholyl-aurine]) (Theis *et al.*, 1988; Espinoza *et al.*, 1993). Initial identification of genuine bear bile samples from Hong Kong was confounded since there was an absence of taurocholic acid in these samples. This could be due to a specific difference between the American and Asiatic Black Bear *Selenarctos thibetanus*. It is possible (but unlikely) that Asiatic Black Bears do not produce secondary salts.

Both Asiatic Black Bears and Brown Bears *Ursus arctos* are farmed for their bile in China (Mills and Servheen, 1991); according to Gao (1991) these number between 5000 and 7000. A number of the Hong Kong samples were labelled as coming from bear farms in China and the absence of the taurocholic acid peak may result from the frequency of bile collection. In farms, the bears have a tube inserted surgically into the gall bladder and bile is milked periodically, usually twice daily (Shong *et al.*, 1991). Ma *et al.* (1991) note that a bear may produce up to 100 ml-200 ml of bile a day. It is suspected that milking may cause continuous production of primary bile acids (Espinoza *et al.*, 1993).

Further evidence came from the two known samples of farmed bear bile purchased directly at the Guanxian Bear Farm in Sichuan in June 1992. The chromatography results were consistent with the genuine samples obtained in Hong Kong. The matter can be settled if some samples from wild

Asiatic Black Bear can be obtained for comparison. It seems that there is a strong possibility that the genuine bear gall bladders on sale in Hong Kong are from farmed bears.

Whether bile samples from farmed bears are as effective medicinally as those from wild bears is not known. The medically active substance in bear bile is a compound called ursodeoxycholic acid (UDCA). Only bears produce this bile acid in significant quantities (MacDonald and Williams, 1985). The apparent absence of secondary taurocholic acids in farmed bear bile may be of no consequence medicinally. Wild bear gall bladder samples contain 0%-30% ursodeoxycholic acid but rarely more than 15%. Shong *et al.* (1991) noted that milked and natural biles are very similar in composition.

#### Availability of 'bear' gall bladder in Hong Kong

About 90% of the medicine shops visited (81 out of 92) sold what was purported to be bear gall bladder or bile salt but these derivatives were openly displayed in only 18.5% of the shops. Many of the shops apparently had only a small stock. Partial gall bladders were displayed in 21 of the 92 shops visited.

The authors estimate that there may have been in the region of 360 bear gall bladders on sale in Hong Kong at the time of this survey<sup>2</sup>, representing an equivalent number of bears slaughtered. However, with no data on the volume of trade, it is not possible to determine the number of gall bladders consumed each year. It should be borne in mind that the stock in some shops may have taken some years to build up. Thus, it would be helpful to conduct a further survey on, for example, the amount of bear gall bladder sold each month.

#### COUNTRIES OF ORIGIN

More than half (55.6%) of the shopkeepers said their stock came from China (see Table). Some quoted USSR, India, Nepal, USA/Alaska and Southeast Asian countries. Others even mentioned African countries such as South Africa where no bears are found. Six shops indicated that they had no knowledge of the source. However, the USFWS laboratory results support the belief that most, probably all, of the genuine samples were from bear farms in China. This may indicate that many answers given by the shop attendants were pure guesses as they may have no idea of the geographical distribution of bears, or they may have been selling gall bladders/bile from other species.

<sup>1</sup>Tael is a traditional Chinese measure of weight: 1 tael=37.8 grams.

<sup>2</sup>The number of bear gall bladders is calculated by the formula: total number of medicine shops in Hong Kong x total number of gall bladders/total number of shops visited x number of genuine bladders/total number of shops that sell gall bladder = 848 x 193/92 x 12/59 = 362 gall bladders. It should be noted that this is not a scientific extrapolation.

*Study on Bear Gall Bladders for Sale in Hong Kong*

Company Code	No.	Claimed origin	HK\$/ tael <sup>1</sup>	US\$/ g <sup>1</sup>	Genuine bear	Company Code	No.	Claimed origin	HK\$/ tael <sup>1</sup>	US\$/ g <sup>2</sup>	Genuine bear
013-K	0.5	S. America	18 000	61.0		050-K	Bile salt	China	3 960	13.5	+
006-N	0.5	China	11 000	37.5		057-K	14	China, USSR	3 800	13.0	
033-H	Bile salt	China	10 000	34.0	+	035-H	Bile salt	Not known	3 500	12.0	+
072-H	Bile salt	China(Jilin)	10 000	34.0		078-H	0.5	outside China	3 500	12.0	+
056-K	2.5	China	8 500	29.0	+	066-K	0.5	Arctic	3 000	10.0	
062-K	Bile salt	China	8 500	29.0	+	079-H	Bile salt	Not known	3 000	10.0	
011-K	Bile salt	Not known	8 000	27.0	+	007-K	2.5	Africa	2 500	8.5	
053-K	0.5	Nepal/India/Burma	8 000	27.0	+	047-N	0.5	China	2 500	8.5	
067-K	0.5	USSR	8 000	27.0	+	060-K	0.5	China	2 500	8.5	
068-K	Bile salt	China	8 000	27.0	+	073-H	0.5	China	2 500	8.5	
038-H	Bile salt	Nepal	7 800	26.5	+	075-H	0.5	China	2 300	8.0	
025-H	Bile salt	China	7 500	25.5	+	005-N	20	NE China	2 000	7.0	
029-H	Bile salt	China	7 500	25.5	+	030-H	1.5	South Africa	2 000	7.0	
037-H	Bile salt	S.America/Alaska & others	7 500	25.5	+	048-N	0.5	China, USSR	2 000	7.0	
081-H	Bile salt	Not known	7 500	25.5	+	064-K	1	USSR	2 000	7.0	
034-H	1.5	Arctic	7 000	23.5	+	015-K	0.5	China, Malaysia	1 800	6.0	
036-H	Bile salt	Not known	7 000	23.5		018-K	1.5	China	1 800	6.0	
071-H	1	India	7 000	23.5	+	031-H	1.5	Africa	1 800	6.0	
074-H	Bile salt	South Africa	7 000	23.5	+	049-K	1.5	Singapore	1 800	6.0	
008-K	7	Arctic	6 600	22.5		063-K	1.5	China	1 800	6.0	
041-N	0.5	China	6 500	22.0		070-K	3.5	China	1 750	6.0	
044-N	Bile salt	Arctic	6 500	22.0	+	054-K	10	China	1 600	5.5	
051-K	Bile salt	China(Sichuan)	6 500	22.0		002-N	1.5	Arctic	1 500	5.0	
001-N	0.5	Arctic	6 000	20.5		009-K	1.5	India	1 500	5.0	
003-N	Bile salt	Africa	6 000	20.5	+	016-K	0.5	China	1 500	5.0	
010-K	0.5	NE China	6 000	20.5		058-K	20	USA, China, India	1 500	5.0	
039-H	0.5	Africa	6 000	20.5	+	069-K	3.5	USSR (Siberia)	1 500	5.0	
043-N	1.5	Nepal, Japan	6 000	20.5		045-N	0.5	Africa (southern)	1 200	4.0	
055-K	1.5	China	6 000	20.5		059-K	0.5	China	1 200	4.0	
061-K	Bile salt	China	6 000	20.5	+	019-K	2.5	China (Sichuan, Yunnan), outside China	1 000	3.0	
065-K	1.5	China (N)	6 000	20.5		022-H	1	China	1 000	3.0	
080-H	4.5	South Africa	6 000	20.5		040-H	3.5	China (Tibet)	1 000	3.0	+
032-H	Bile salt	S. America	5 800	19.5	+	024-H	9.5	China	945	3.0	
017-K	Bile salt	China (NE)	5 000	17.0		021-H	1	China (Sichuan)	700	2.5	
052-K	1.5	Arctic	5 000	17.0	+	026-H	2	China (Sichuan)	500	1.7	
076-H	0.5	China(near USSR)	5 000	17.0	+	046-N	0.5	China	500	1.7	+
077-H	6	China	4 250	14.5	+	028-H	2	China	280	1.0	
004-N	2.5	SE Asia	4 000	13.5		027-H	2.5	China (NE)	180	.5	
012-K	36.5	India	4 000	13.5		042-N	1.5	China	156	.5	
014-K	3.5	China	4 000	13.5		020-H	1	China (Sichuan)	Not known		
023-H	Bile salt	China	4 000	13.5							

**'Bear' Gall Bladders purchased in Hong Kong.**

<sup>1</sup>Tael is a traditional Chinese measure of weight: 1 tael=37.8 grams.

<sup>2</sup>US\$ and HK\$ are officially linked at an exchange rate of US\$1=HK\$7.8

Source: Survey carried out by the authors.

## CONCLUSIONS

Alleged bear gall bladder/bile is commonly available in Hong Kong. The results of this survey show that a little over one-third of the bear gall bladder and bile samples are genuine, but that most, and possibly all, are from farmed bears in China. Although a price above HK\$3243 a *tael* increases the likelihood of obtaining genuine gall bladder, high price does not guarantee authenticity.

Genuine bear gall bladders range in colour from yellowish brown to a shiny black - the latter appearance resembling gall bladders from pigs. This similarity makes it very difficult for customers, and possibly shop staff, to make a distinction. Identification is further obscured by the fact that the small quantity of bile which customers buy usually comes in the form of powder. It is uncertain from which animals the non-genuine bear biles derive but some at least are from pigs (Espinoza *et al.*, 1993). Since only bears produce any notable amount of ursodeoxycholic acid, the use of bile from other animals may result in prescriptions not producing the expected or desired effect. This requires further study.

Pre-packed bile salts offered for sale may be from farmed bears, in which case the animal is not killed. It is worth noting, however, that it appears that the genuine gall bladders also came from farmed bears. Since the breeding production of captive bears in China is very low (S. Mainka pers. comm., 1993) a substantial number of bears in farms may be wild-caught, and thus bear farming continues to place wild populations at risk. Gui (1991) indicates that the wild population in China is about 20 000.

## RECOMMENDATIONS

There is an immediate need for the Hong Kong Government to list American Black Bear under the *Animals and Plants (Protection of Endangered Species) Ordinance*, (Cap. 187), as required by CITES. This would permit the control of trade in gall bladders and bile of this species and thus close the existing loophole whereby traders can claim that the bladders and bile for sale are from a species in which trade is not controlled. It would not, however, allow for control of trade in manufactured medicines.

The Hong Kong Government is currently considering including bear gall bladder in the list of controlled medicines in Schedule 5 of Cap. 187. "Controlled medicines" as defined under this Ordinance means any medicine which contains, or is claimed, represented or held by any person, by advertisement or otherwise, to contain any part or derivative, whether readily recognizable or not, of any animal specified in the Schedule 5 of the Ordinance.

Listing of bear gall bladders in Schedule 5, however, may only prevent these derivatives of CITES Appendix I species being used (or claimed) as an ingredient in Chinese medicines, and trade in Appendix II species might still be permitted. In such a situation, there would still be a substantial loophole remaining in view of the great difficulty in distinguishing bile between bear species.

## ACKNOWLEDGEMENTS

We are very grateful to the US Fish and Wildlife Service which generously undertook the analyses of the samples, and in particular Dr. E. Espinoza who assisted with this work and answered many queries. This project was partially funded by TRAFFIC USA and TRAFFIC Japan. The Director of Agriculture and Fisheries assisted in arrangements for the transportation of samples to the USA. We would like to thank those who helped at various stages during this study, in particular Christopher Servheen, Judy Mills, Sue Mainka and Tom Milliken.

## REFERENCES

- Bensky, D. and Gamble, A. (1986). *Chinese Herbal Medicine Materia Medica*. Eastland Press, Seattle, USA.
- Espinoza, E.O., Shafer, J.A. and Hagey, L.R. (1993). International trade in bear gall bladders: forensic source inference. *Journal of Forensic Sciences* 38:1361-1368.
- Gao, Y.T. (1991). From hunting, capturing, to breeding the Black Bear (*Selenarctos thibetanus*). In: *Proceedings of East Asiatic Bear Conference, Harbin, China, August 1991*. P.120.
- Gui, X.J. (1991). Conservation and management for Asiatic Black Bear: challenge and strategy. In: *Proceedings of East Asiatic Bear Conference, Harbin, China, August 1991*. P.126.
- Ma, Y.Q., Xu, L., Li, S.X. and Zhen, S.Z. (1991). Distribution and utilization of bear in northeast China. In: *Proceedings of East Asiatic Bear Conference, Harbin, China, August 1991*. Pp.130-131.
- MacDonald, A.C. and Williams, C.N. (1985). Studies of bile lipids and bile acids of wild North American Black Bears in Nova Scotia showing a high content of ursodeoxycholic acid. *Journal of Surgical Research*. 38:173-179.
- Mills, J.A. and Servheen, C. (1991). *The Asian trade in bears and bear parts*. TRAFFIC USA, Washington, DC, USA. 113pp.
- Lin, H. and Chen, S. (1988). *Original Colour Atlas for Discriminating Chinese Traditional Drugs*. Guangdong Science & Technology Press. P.139.
- Shong, Z.Z., Wang, Y., Xie, B.B., Quan, X.Z. and Jiang J.G. (1991). Study on the biles extracting from living bears [sic]. In: *Proceedings of East Asiatic Bear Conference, Harbin, China, August 1991*. Pp.197-198.
- Theis, J.H., DeRopp, J.S., Schwab, R.G., Banks, J. and Levine, K. (1988). Nuclear Magnetic Resonance to differentiate bear, pig and cow bile for forensic investigations. *Wildlife Society Bulletin* 16:430-433.

Amy Lau, Clement Ngai and David S. Melville, WWF Hong Kong, GPO Box 12721, Hong Kong.

## POSTSCRIPT

On 28 January 1994, the Hong Kong Government announced that, with immediate effect, the importation and export of all bear gall bladders and bile are subject to control under the *Animals and Plants (Protection of Endangered Species) Ordinance*. Those already in possession of such items have three months in which to register them. The controls do not cover manufactured medicines.

# Utilisation of Wildlife in Bakossiland, West Cameroon

## With Particular Reference to Primates

Sadie King

*A preliminary survey of the occurrence of primates and the human utilisation of wild animals was conducted over a period of nine weeks in Bakossiland, west Cameroon, between March and June 1992. Data were collected from interviews with resident Bakossi hunters/trappers, from field observations in local forest hunting grounds and at local markets. Information was also collected on the occurrence of Leopard *Panthera pardus leopardus*, forest elephant *Loxodonta africana cyclotis* and forest buffalo *Syncerus caffer nanus*. The results of this survey indicate that primate populations in some areas of Bakossiland have declined significantly in the past decade and elephant and buffalo numbers are thought to have declined significantly over the same period. As well as being a source of local subsistence, wildlife is subject to demand from external urban markets for bushmeat. This has created a commercial incentive to hunters that may be ultimately unsustainable in its present form. Further assessment is needed of the extent of habitat degradation and its effects on the indigenous wildlife. The author will undertake further surveys of bushmeat utilisation in this region during 1994.*

### INTRODUCTION

West Cameroon has long been recognized as an important area for rare and endemic flora and fauna (Kingdon, 1990). Throughout West African rainforests, many species are threatened by the encroachment of agriculture, logging and excessive hunting (Oates, 1986), which has resulted in the degradation of forest habitats and the fragmentation of animal and plant communities. Although the forests cover approximately 37% of Cameroon's total land area, it is estimated that between 800 km<sup>2</sup> and 1500 km<sup>2</sup> are deforested each year (Garlan *et al.*, 1992).

Bakossiland is an ethnic region of approximately 2000 km<sup>2</sup> in the South West Province, lying 100 km inland from the Bight of Biafra and 100 km east of the Nigerian border (Figure 1). This area represents the southern half of a larger tract of forest comprising montane and lowland habitats which extend northwards to include the western foothills of the Bamboutos Mountains which in turn give way to the eastern lowland of the Mamfe basin. Bakossiland encompasses mountains of up to 2441 m that are part of a volcanic chain which extends to the far north-west of the country and includes the offshore islands of Equatorial Guinea and São Tomé.

The Bakossi (Bantu) people are primarily subsistence and cash crop farmers. Their income is almost entirely dependent on the cultivation of coffee and cocoa which is constantly vulnerable to fluctuations of world market

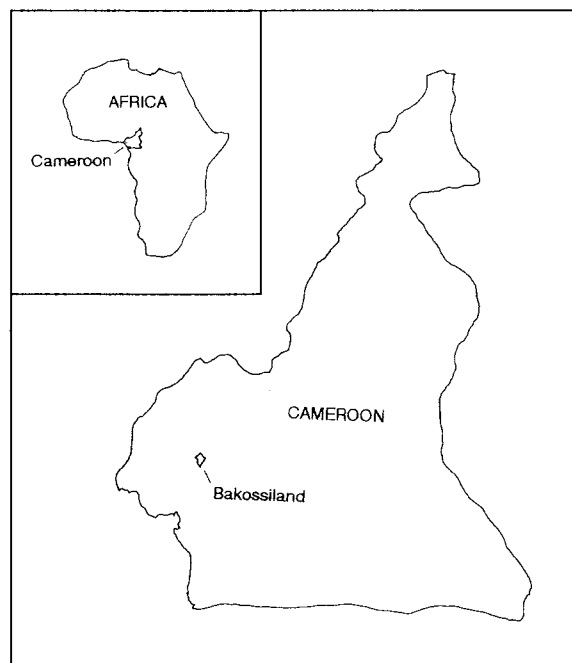


Fig. 1. Location of Bakossiland in Cameroon.

prices (White & Gleave, 1971). Generally, large monocultures of banana and rubber can be found only to the south of Bakossiland. The Jide valley (Figure 2) in particular predominates in cash crop agriculture and has been intensively farmed since the introduction of plantations by the German colonists in the early 1900s. Plantains and cocoa yams are also grown for the non-food producing areas of the country. Food crops are universally grown for basic sustenance. The customary planting method throughout the area is intercropping cash and food crops, based on a pattern of shifting cultivation, periodically creating new farms from virgin forest and leaving exhausted land to lie fallow.

Cash crops have to a large extent taken priority over food crops which has resulted in a less diverse and rather starchy staple diet (Ejedepang-Koge, 1986). The primary staples - cocoa yam, plantain, cassava, banana and imported rice - are supplemented by domestic animal protein and fish, much of which is obtained at markets rather than locally reared. Beef, which is available at Bangem, Nyasoso and Tombel markets (Figure 2), is supplied largely by the Bororo and Fulani herds grazed on the Manenguba grasslands. There are no extensive, navigable river systems in Bakossiland which has discounted fishing as a viable, full-time occupation (Ejedepang-Koge, 1986). The commonly available sea fish is imported to the area either dried or frozen.

Although chickens, pigs and goats are commonly kept free range on a small scale, domestic livestock is expensive to rear and, except for special family occasions, stock is rarely slaughtered. The standard, and presently only, viable method of obtaining the essential protein and other nutrients is from the natural food reserves of the surrounding forests. Hunting and other forms of forest exploitation are generally considered as secondary occupations to agriculture.

Giant land snails, frogs, fruits, nuts, honey and spices are all traditionally gathered, but of most value to indigenous people and of most concern to conservationists is the harvesting of 'bushmeat' (Gartlan, 1975; Happold, 1987). Forest mammals are trapped and hunted frequently. Primates and medium-sized mammals e.g. duiker *Cephalophus* spp., African Civet *Viverra civetta*, Brush-tailed Porcupine *Atherurus africanus* and Cane Rat *Thryonomys swinderianus* are particularly vulnerable to hunting with firearms and trapping respectively (Happold, 1987; Infield, 1988). These resources are considered free or naturally inherited by the Bakossi and hunting rights are communal and universal.

The necessity for adept forest exploitation has over successive generations evolved a strong tradition of hunting expertise. This naturally results in the accumulation of detailed ethnobiological knowledge (Berlin, 1992) that is of great significance to naturalists and conservationists alike in their search for understanding of tropical biodiversity

and the human impact on it. In recognition of these facts the 'hunter interview' method of data collection was employed in this survey. This is a viable and useful method of data collection for a preliminary faunal survey which not only reveals primary data on faunal distribution and decline (e.g. Gautier *et al.*, 1992; Happold, 1987) but provides a unique insight into the economics and consumption of bushmeat (Gadsby, 1990).

### STUDY AREA

The study area is described from 1:50 000 and 1:200 000 vegetation/topographic Centre Geographique National maps, from data gained during field work, and from Ejedepang-Koge (1986). Forest blocks are defined on vegetational and topographic criteria that are likely to incur changes in faunistic composition. Other blocks are defined on the grounds of being anthropologically isolated by cultivation and roads (see Table 1).

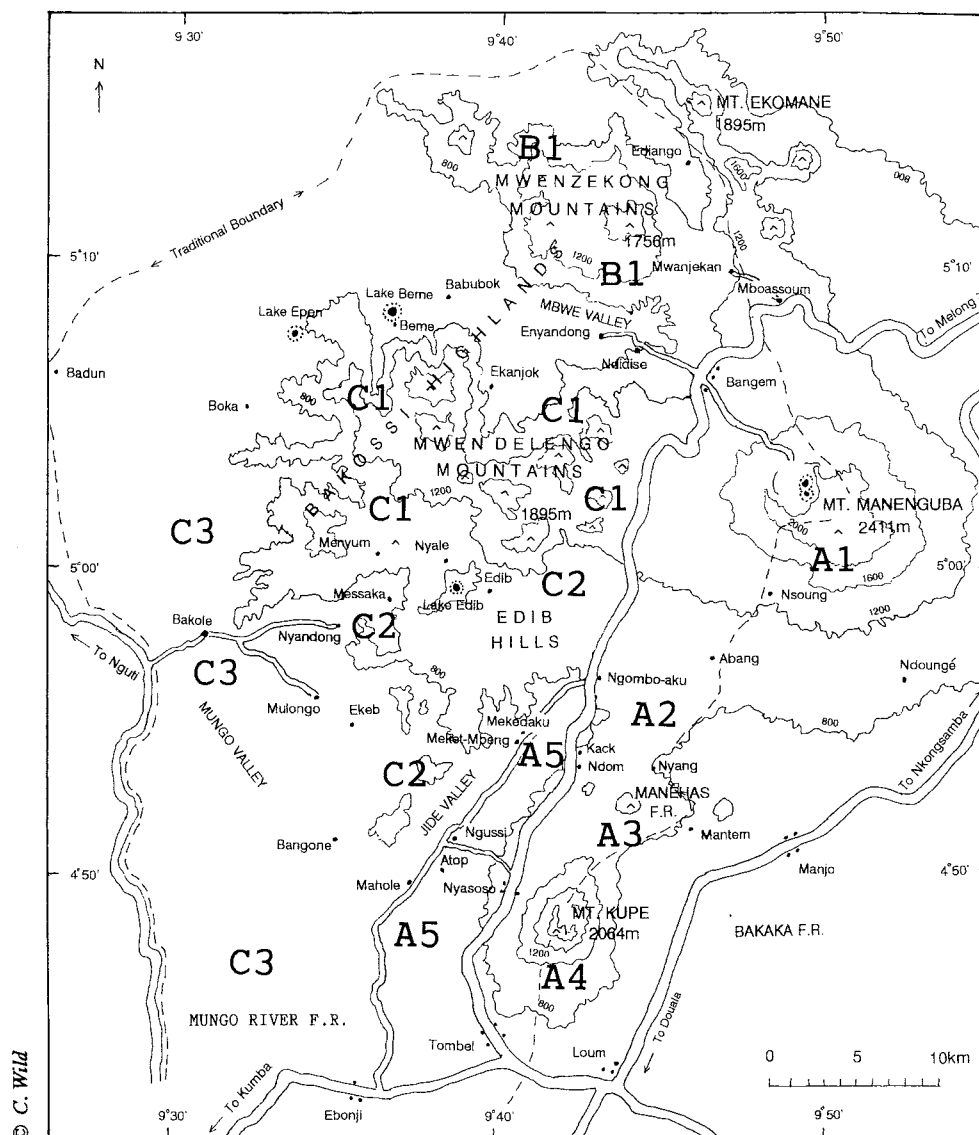


Fig. 2. Map of Bakossiland, illustrating forest blocks.

F.R. = Forest Reserve



Block	Name	Description
A1	Mount Manenguba Forest	Montane forest from summit (2441 m) to 1500 m on south-eastern slopes.
A2	Nyang, Abang, Ngombo-aku Forest	Anthropically isolated forest lying at 1000 m.
A3	Manehas Government Reserve	Pre-submontane forest 800 m-1300 m separated from Mount Kupe forest by farm track.
A4	Mount Kupe Forest	Transitional premontane to montane forest 700 m-2064 m.
A5	Jide Valley	Intensive farmland/farmbush 200 m-1000 m.
B1	Mwenzekong Mountains	Extensive premontane to montane forest 500 m-1750 m continuous northwards with forests of Banyang Mbo Council Forest Reserve.
C1	Mwendelengo Mountains	Extensive premontane to montane forest up to 1900 m. Primary forest continuous with Edib Hills and Mungo Valley.
C2	Edib Hills	Hill forest, pre-submontane 300 m-1300 m.
C3	Upper Mungo Valley	Lowland forest 100 m-500 m south to Kumba-Tombel road.

Table 1. Summary of forest blocks.

A = Mts Manenguba and Kupe including the 16 km intermontane ridge and the Jide Valley; B = Northern Bakossiland; C = Western Bakossiland

## METHODS

The majority of the villages visited were accessible only by foot. Guides were hired from one village to the next and between one and two days were spent at each village. An equal amount of time was allocated to working in the forest areas between villages in order to note vegetation type and extent and frequency of trapping.

A total of 63 hunters fully participated in the interviews, which were conducted in 14 villages: Nsoug, Abang, Nyang, Mwanjekan, Ndidise, Babubok, Makedaku, Edib, Messaka, Nyandong, Mulongo, Ekeb, Bangone and Mahole. Additional information was collected in Belo (1.5 km south-west of Nsoug), Ngombo-aku, Nyasoso, Bangem, Enyandong and Beme. Interviews were initiated by requesting the participation of hunters in a discussion concerning local wildlife. Beer or palm wine was provided in order to induce a social and informal setting. Up to 20 and on average four individuals participated in each session, which lasted for between one and three hours; additional information was gained during informal conversations throughout the study period.

The interview technique was designed to extract detailed descriptions of primates and aspects of their behaviour and to be as open-ended as possible in order to encourage maximum discussion and avoid yes/no an-

swers. Particular effort was made not to ask any leading questions and deliberately suggestive ones were asked to test accuracy of the hunters' knowledge and their willingness to disagree with the interviewer. Interviewees were initially requested to give the names of individual primate species that are present or previously occurred in their normal hunting areas. This was recorded in the vernacular and in pidgin English. The following details were then asked for on each species: identification; vocalisations; group size and composition; polyspecific associations; and, habitat selection.

Photographs and field guides were presented for confirmation of the identity of the species described. Photographs of primates not occurring in the area were made available to test the accuracy of the information. In addition, villagers were asked whether it was possible to view any skulls or skins that are often retained for trophies, religious purposes and medicines. Further discussion was then initiated on bushmeat economics and attitudes towards, and customs involving, wildlife in general.

In order to assess the impact of present-day hunting, hunters were asked, by species, whether they perceived any decline in animals from personal observation and hunting success in the past five to 10 years and whether hunting and trapping in general had become less productive.

The recording of direct field observations and primate vocalisations verified information from hunter interviews.

## OCCURRENCE OF PRIMATES

In total, four prosimians and 11 simian primates were described in the hunter interviews. These were: Angwantibo *Arctocebus calabarensis*, Potto *Perodicticus potto*, Allen's Galago *Galago alleni*,<sup>1</sup> Dwarf Galago *Galago demidoffi*,<sup>1</sup> Elegant (Needle-clawed) Galago *Galago elegantulus*, Red-capped Mangabey *Cercocebus torquatus*, Grey-checked Mangabey *Cercocebus albigena*, Drill *Mandrillus leucophaeus*, Preuss's Guenon *Cercopithecus preussi*, Putty-nosed Guenon *Cercopithecus nictitans*, Russet-eared Guenon *Cercopithecus erythrotis camerunensis*, Mona Monkey *Cercopithecus mona*, Crowned Guenon *Cercopithecus pogonias pogonias*, Tantalus Monkey *Cercopithecus aethiops tantalus*, Preuss's Red Colobus *Procolobus badius preussi*, and Central Chimpanzee *Pan troglodytes troglodytes*.

Of those listed, Drill, Preuss's Guenon and Preuss's Red Colobus are classified as 'Endangered', and the Angwantibo, Red-capped Mangabey, Russet-eared Guenon and Central Chimpanzee as 'Vulnerable', according to the IUCN Red List (Groombridge, 1993).

Prosimian taxa were difficult to differentiate owing to their similarity in appearance and behaviour. Where descriptions became particularly confused, (ND) was recorded. Although prosimians are sometimes caught in traditional traps, decline in their abundance was not recorded except in the vicinity of Nsoug village (A1), where they were hunted with guns.

<sup>1</sup> There is disagreement over the generic name for these species which some consider to be a separate genus *Galagoides*.



Forest Block Species & IUCN/ (SSC rating*)	A1	A2	A3	A4	A5	B1	C1	C2	C3
Angwantibo									
<i>Arctocebus calabarensis</i> (7)	-	-	ND	-	ND	-	-	-	ND
Potto									
<i>Perodicticus potto</i> (5)	+d	+	ND	+v	ND	+	+	+v	+
Allen's Galago									
<i>Galago alleni</i> <sup>1</sup> (5)	ND	ND	ND	+v	ND	ND	ND	+v	+v
Dwarf Galago									
<i>G. demidoffi</i> <sup>1</sup> (4)	+d	+	ND	+	ND	ND	ND	ND	ND
Elegant (Needle-clawed) Galago									
<i>G. elegantulus</i> (5)	ND	+	ND	+	ND	+	ND	+v	+v
Red-capped Mangabey									
<i>Cercocebus torquatus</i> (7)	-	+	-	+	-	+	+	?	+d
Grey-cheeked Mangabey									
<i>C. albigena</i> (5)	-	-	-	-	-	-	-	-	ND
Drill									
<i>Mandrillus leucophaeus</i> (9)	+d	?	?	+v	-	+	+	+	+
Preuss's Guenon									
<i>Cercopithecus preussi</i> (9)	-	+v	?	-	-	+	+	+CR v	+
Putty-nosed Guenon									
<i>C. nictitans</i> (6)	+	+	+	+v	-	+	+	+v	+CRv
Russet-eared Guenon									
<i>C. erythrotis camerunensis</i> (7)	?d	+t	+	+t v	-	+t	+t	+t v	+t
Mona Monkey									
<i>C. mona</i> (3)	-	+CR	+	+v	-	+CR	+CR	+CR	+CRv
Crowned Guenon									
<i>C. pogonias pogonias</i> (3)	-	+	+v	+v	-	+	+	+v	+d
Tantalus Monkey									
<i>C. aethiops tantalus</i> (4)	+CR d	+CR	+	+v	+d	+CR	+CR	+CR	+
Preuss's Red Colobus									
<i>Procolobus badius preussi</i> (8)	-	-	-	-	-	-	-	-	?d
Central Chimpanzee									
<i>Pan troglodytes troglodytes</i> (7)	-	+	+	+v	-	+	+	+v	+
General mammal decline	+	-	-	-	+	+	+	-	+
Non-indigenous utilisation	+	+	-	-	-	+	+	+	+

Table 2. Occurrence of primates in forest blocks.

Source: Survey by the author

<sup>1</sup> there is disagreement over the generic name for these species which some consider to be a separate genus *Galagoides*.

+ = present; - = not present; ? = occurrence not established owing to doubt as to its present day occurrence; ND = not determined owing to conflicting/insufficient data; t = species specific taboo; v = hunter interview data verified by presence of skin, skull, captive or dead animal in village, or confirmed by sighting of species or call heard in forest block by author; CR = species indicated as common crop raider; d = species indicated as having declined significantly over the past five to 10 years in comparison with other known primates.

\* Conservation ratings as defined by IUCN/SSC Primate Specialist Group (Oates, 1985). Ratings are based on degree of threat, taxonomic uniqueness and association with other threatened forms. Rating is out of a possible 11. The highest rating for any African primate is 9 which indicates an urgent need for protection. These ratings refer to species and therefore do not take into account the threats to subspecific forms.

The density of simians was found to be lower from Mount Manenguba, south to the Manehas Government Reserve (A1, A2, A3) than the other areas surveyed. In addition, the number of mammals in this area was unanimously perceived by hunters to be less abundant than formerly. Drill aggregations were reported to be smaller (30 to 40 maximum) than in the more extensive western Bakossiland which is less densely populated by humans and is relatively inaccessible by road. Forest block (A1) may be the most heavily hunted area: Russet-eared Guenon was considered extinct here and all other species had declined significantly. East of Mount Manenguba and Mount Kupe runs the Nkongsamba-Loum road. This continues south to Douala, the chief port and largest city in

west Cameroon, and creates an ideal route for the efficient operation of the bushmeat trade.

The Mwenzekong Mountains (B1) are continuous to the north with the foothills of the Bamboutos Mountains. Nine simian species were recorded here. Further research is needed to assess the status of these forests.

Nine simian species occur in Mwedelengo Mountains (C1), an area partially separated from the Mwenzekong area (B1) by a valley of extensive cultivation. Hunting threats come mainly from the farming population and there exists an outlet for the bushmeat trade via Mboassoum and Bangem markets. The forest of the Edib Hills (C2) is continuous with the Mwendelengo Mountains (C1) and contains an identical primate fauna except for the possible

absence of Red-capped Mangabey. These areas together make up an extensive highland habitat that is part of the range of the highly endangered Drill and Preuss's Guenon, both of which appear to be abundant according to hunters' reports of regular sightings/killings and healthy group sizes.

Further research is needed into the status of the Upper Mungo Valley forest, where eleven simian species may occur sympatrically. Hunters' comments suggest that hunting pressure is very high in this area, particularly from the Jide Valley (A5) farming population. To the west, the Nguti-Kumba road represents the potential means of access by loggers, commercial hunters and the extension of the transport infrastructure. Further research is required to verify the occurrence of Grey-cheeked Mangabey and to determine the population density of Red Colobus.

Tantalus Monkey is present throughout the cultivated zones of Bakossiland and is generally considered common. The characteristic adaptability of this species has enabled it to exploit degraded habitats rendered unsuitable for forest species (Kavanagh, 1978).

#### OTHER MAMMALS

Data were also collected on three other mammals: forest elephant *Loxodonta africana cyclotis*, forest buffalo *Syncerus caffer nanus* and Leopard *Panthera pardus leopardus*. These were chosen as representative of large mammals whose slow rate of reproduction cannot viably replenish a population exposed to intensive hunting (Happold, 1987). Their decline, therefore, may be indicative of over-exploitation. Although duikers, Cane Rat and Brush-tailed Porcupine probably constitute a large proportion of bushmeat harvested (Martin, 1983; Infield, 1988), their decline is not likely to be as immediately discernible owing to higher population densities.

In Bakossiland, elephants and buffalo are occasionally reported to cause considerable crop damage. In response to a complaint, either the Game Branch of the Government's Department of Forestry or a 'professional' hunter(s) will take responsibility for the control of crop pests and any wild animals causing disruption to a village. If they succeed in killing the offending animal(s), the meat is sold to the villagers and some may be taken away. In the case of elephants, the tusks are removed to supply a ready market (ivory carvings and tusks are obtained with ease in urban artisan markets). Buffalo horns are also desirable trophies but are not known to be of commercial value.

The elephant is thought to be extinct along the Manenguba-Kupe intermontane ridge where the last known killing occurred in 1984 in the (A2) forest block. Its status in the Mwenzekong Mountains (B1) has not been assessed (the butchered carcass of one killed from this forest had been available at local markets within the previous year). The last sighting of elephant in the Mwendelengo Mountain region (C1) was in 1990, when three were killed. A sighting was reported at Lake Edib in 1991 but this was considered a rare incident as elephants were not normally known in this area. Although elephants are present in the Upper Mungo Valley (C3), hunters consider that numbers are depleted in

comparison with the population of 10 to 20 years ago. In the absence of sufficient data on the status of this forest, it is difficult to determine whether decline is attributable to loss of habitat, overhunting or a combination of both. The last hunting report quotes seven killed in this area on a Game Branch expedition in response to complaints of crop raiding in 1985/86.

Buffalo were known of from all locations visited but, like the elephant, seem vulnerable to local extinction or serious decline. The seemingly patchy distribution of this species in Bakossiland may be influenced by its natural restriction to areas where some grassland can be included in its home range (Happold, 1987). Buffalo may still occur in areas A1 and A2 but they are considered close to local extinction. In Abang village (A2), three buffalo skulls were recorded.

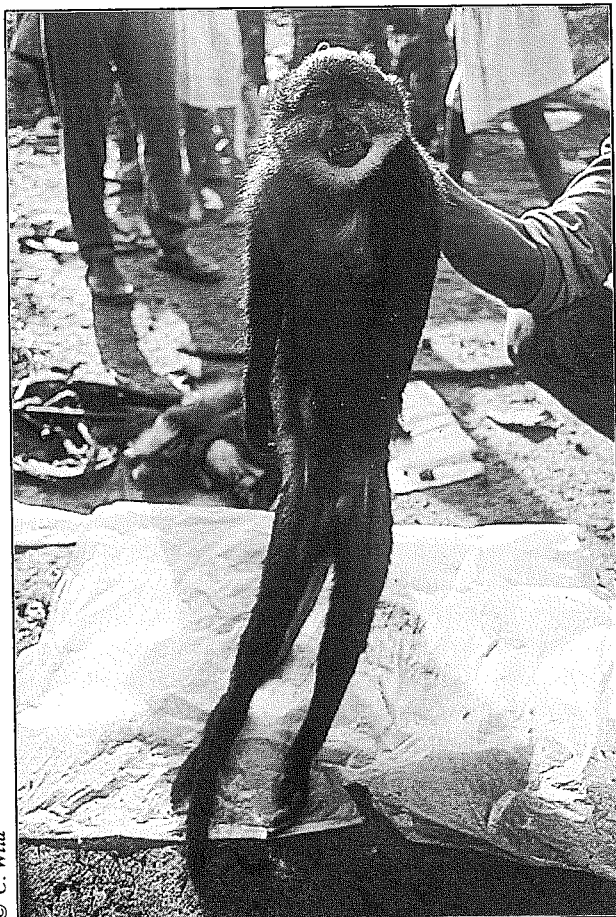
The presence of buffalo in the Mwenzekong Mountains (B1) was not established, although it apparently used to occur there. In the Mwendelengo Mountains (C1) its presence is verified by recent sightings and hunting incidents within the year 1991-92. It is not known from the Edib Hills (C2) but is thought to be present in the Upper Mungo Valley (C3).

Leopard, named 'Tiger' in pidgin, is thought to have previously occurred in Bakossiland as it is an animal that most people had knowledge of, but this may stem from local history of the species or from hunting expeditions to other regions. None of the interviewees stated positively that it occurred in Bakossiland except one elderly retired hunter who claimed to have seen the animal as a child. The occurrence and status of the Leopard in the area therefore remains inconclusive. The Golden Cat *Felis aurata* may also occur in this region and, being similarly elusive, may be confused with the Leopard.

#### HUNTING CONVENTIONS AND PROCEDURES

Hunting and trapping are practised by most male members of the population. In southern Nigeria the activity has been considered as socially 'backward' (Gadsby, 1990) but this view is not common in Bakossiland where hunting is considered recreational as well as economic. In fact a proficient hunter may earn much regard from his contemporaries and the extended family for whom he provides. Ordinarily, hunting is never a female pursuit but women hunting amphibians were observed by the author.

Guns are in common use and, if not owned personally, are easily borrowed from neighbours in exchange for meat. Despite a considerable reluctance to discuss the ownership of firearms in the study area, the guns that were seen were reported to be illegally manufactured in Nigeria and are obtained from Nigerian traders for CFA30 000-CFA200 000 (US\$90-US\$600). These traders regularly convey a variety of goods across the border and cartridges are similarly obtained. The frequency of the traders' visits to Bakossi markets is obscure and considering the reported periodic shortages of cartridges and prices ranging from CFA200-CFA1000 each, such visits are probably erratic.



© C. Wild

Preuss's Guenon *Cercopithecus preussi*, Mboassoum market.

Most hunting is carried out in daylight. The customary practice is to leave the village early in the morning and return at the end of the day. Night hunting (by torch light) does not appear to be as common as in other parts of West Africa (Oates, 1986; Infield, 1988; Gadsby, 1990). Night hunting was practised by approximately one third of the villages where interviews took place. However, hunters often remarked that they would be reluctant to sleep in the bush. The reason for this may be that many of the locations in the study area e.g. lakes and mountains, are considered



© C. Wild

Part of the kill from a hunting expedition which resulted in the shooting of 30 Drills *Mandrillus leucophaeus* from a larger aggregation encountered by two hunters with dogs in farm bush above Nyasoso (Mount Kupe).

spiritual landmarks. In western Bakossiland, unauthorized, non-Bakossi hunters are known to regularly hunt at night and visiting 'professionals' may stay in the bush for up to one week. Specialist hunters also operate nocturnally, venturing to forest streams for frogs *Conraua* spp., *Trichobatrachus robustus* and West African Dwarf Crocodiles *Osteolaemus tetraspis*.

Hunting takes place throughout the year, but an actual 'hunting season' corresponds with the wet period of March to September. Hunters reported that this is because of a seasonal abundance of game. This may be influenced by a profusion of fruit in the wet season, which induces some primate species to converge in higher densities in areas rich in fruit-bearing trees (Gartlan and Struhsaker, 1972). The wet, mulchy ground that enables hunters to stalk prey undetected is also a component of the optimum hunting conditions of this season (Gadsby, 1990). Traditional hunting occasions, such as arranged hunts with neighbouring villages, no longer take place because of a decline in free time as a result of the expansion of cash crop farming.

Dogs are valuable hunting tools and an active hunter may own up to four. Hunters report that when pursuing semi-terrestrial primates such as the Drill, Preuss's Guenon or Red-capped Mangabey, the males will hold their ground and fight with the dogs while their conspecifics flee or climb into nearby trees. This method is of particular danger to large aggregations of Drill (up to 200) which often become stranded in trees and are consequently easily shot down (Gartlan, 1975). In Nyasoso, in 1990, some 30 specimens were observed killed in this way.

Trapping, a practice which peaks in the wet 'hunting' season, is a cheaper method of obtaining meat (Infield, 1988) and requires little financial output and considerably less energy and resources than other forms of hunting. Wire snare lines are common: a snare is placed across a path connected to a bent sapling spring that is triggered when an animal steps into it. These were especially prolific close to villages. Iron jaw traps were not as common and their use only reported in two roadside villages.

Some traditional Bakossi traps have been utilised for many generations but owing to competition with more productive modern methods and materials are seldom in use today with the exception of pit traps, which are effective in capturing terrestrial animals alive, e.g. duiker, which are highly desirable on the bushmeat market. Pit traps are less commonly seen in the forest than wire snares, perhaps owing to their situation off the forest trails rather than to their rarity.

No extensive records were collected on trapping in this survey but the following species were observed in trapping incidents: Long-tailed Pangolin *Manis tetradactyla* (C3), Tree Pangolin *Manis tricuspis* (A1, A4, A5), giant rat *Cricetomys* sp. (A1, B1), Brush-tailed Porcupine *Atherurus africanus* (A3, A4, B1, C1, C3), Cane Rat (A1, A4), African Civet (C2), Two-spotted Palm Civet *Nandinia binotata* (A4), Bay Duiker *Cephalophus dorsalis* (A1) and Blue Duiker *C. monticola* (A1, A3, A4, C3). Hunters report that semi-terrestrial primates are also vulnerable to trapping.

Examples of available meat	Approx. weight (Kg)	Local price CFA per Kg <sup>1</sup> (US\$)	Local (average) price CFA for whole animal (US\$)	Commercial value CFA <sup>2</sup> of whole animal (US\$)
Adult Chimpanzee <i>Pan troglodytes</i>	40	300 (0.90)	11500 (34)	11500-15000 (34-45)
Adult Drill <i>Mandrillus leucophaeus</i>	35	200 (0.60)	6500 (19)	8000-15000 (24-45)
Adult monkey (average weight of <i>Cercocebus</i> & <i>Cercopithecus</i> )	5.5	300 (0.90)	1750 (5)	1500-5000 (4.5-15)
Elephant <i>Loxodonta africana</i>	—	—	9000 (27)=one leg	—
Chicken	1	1500 (4.5)	1500 (4.5)	—
Beef	—	600 (1.80)	—	—
Frozen fish	—	600 (1.80)	—	—

Table 3. Bushmeat and domestic meat prices in Bakossiland.

Source: Survey by the author

<sup>1</sup>Because bushmeat and chicken are not normally sold per kg, prices are approximate and calculated from those given for whole animals in order to compare with other meat values.

<sup>2</sup>Commercial values are likely to be maximum values i.e. adult males at maximum prices to bushmeat buyers for restaurants.

In many forest areas of West Africa the imitation of monkey vocalisations is often used by hunters to locate prey (Gadsby, 1990; Gautier *et al.*, 1992). This is also common in Bakossiland and in one village a hunter used empty cartridge shells to imitate Drills.

Other hunting methods include the use of a catapult for targeting small mammals such as squirrels; larger reptiles, such as Gaboon Viper *Bitis gabonica*, Rhino-horned Viper *Bitis rhinoceros*, African Rock Python *Python sebae*, Forest Cobra *Naja melanoleuca* and the Ornate Forest Monitor *Varanus niloticus ornatus* may sometimes be killed opportunistically on farms with a machete or, in the case of Cane Rat and pangolin, for example, with the help of hunting dogs. Fish and amphibians are collected in various traditional baskets, nets and traps (Ejedepang-Koge, 1986) and with specially constructed crossbows (Wild, in press). They are also harvested by poisoning streams with gammolin pesticide, a practice which probably originated from the use of natural poisons (Wild, in press).

### HUNTING BY NON-INDIGENES

Forest hunting grounds are owned jointly by villages of approximately 5 km to 10 km radius. Although village forest boundaries do exist in Bakossiland, these do not exclude hunting rights to other villages or non-Bakossi hunters if permission is granted by a chief.

In three villages in western Bakossiland it was reported that people from other areas were frequently 'secretly' utilising the hunting grounds of Bakossi. Whilst there does not appear to be any sense of territorial ownership of hunting grounds and the Bakossi tradition towards strangers is very warm, the consensus among local hunters is that outsiders coming to hunt without seeking permission or compensating the chiefs defies common courtesy. The growing frequency of this practice is perceived to have a detrimental effect on the local abundance of animals.

In western Bakossiland, which has a regional reputation for its extensive forest and abundance of game, there exists an element of 'sport hunting' where professional

hunters from outside Bakossiland come to villages on hunting expeditions. This can be popular with local people as they benefit from meat that is often sold cheaply in the villages, local hunters are employed as guides and chiefs are well compensated with meat, whiskey or beer. Local hunters fully accept the activities of sport hunters as they are usually in possession of gun licenses which hunters themselves do not own. This is the only hunting law that is common knowledge in the area. The frequency of visits made by sport hunters was not fully established; one report quoted twice a year.

### THE BUSHMEAT TRADE

Bushmeat is often consumed exclusively within the extended family or amongst neighbours. This is particularly the case in isolated villages where access to the modern economy is minimal and the society conforms with traditional meat-sharing customs. At Ekeb village, in western Bakossiland, an African Civet was butchered in such a way that each person in the village secured a small share (see photo). Bushmeat is also one of the few examples of marketable merchandise accessible to rural people and often represents an important part of the economy (Infield, 1988; Martin, 1983).

Bushmeat is available at local prices in villages and is purchased in preference to domestic meat because it is cheaper: the local price for an average monkey (5.5 kg) is CFA1500-CFA2000, the equivalent value in domestic meat would be one (1 kg) chicken or 3 kg of beef or fish (Table 3). Thus, a competitive price combined with the fact that bushmeat is universally preferred due to its superior taste suggests that there exists a high demand for bushmeat locally.

Although bushmeat is sold for local consumption by hunters, it is at markets where the higher prices are secured. Village markets are held frequently throughout Bakossiland and are well attended by the people of surrounding villages who carry their wares long distances through forests and farms. Markets are often located at villages in close proximity to main roads and it is here that a commercial

Species	No.	Observations
Giant rat <i>Cricetomys</i> sp.	3	adult: fresh trapped
Cane Rat <i>Thryonomys swiderianus</i>	3	adult: fresh trapped
Brush-tailed Porcupine <i>Atherurus africanus</i>	3	adult: fresh trapped
Tree Pangolin <i>Manis tricuspis</i>	3	adult: 1 live, 1 fresh trapped, 1 dried
Blue Duiker <i>Cephalophus monticola</i>	1	adult: fresh, shot
Bay Duiker <i>C. dorsalis</i>	1	adult female: live
Duiker <i>Cephalophus</i> spp.	6-8	dried butchered carcasses
Drill <i>Mandrillus leucophaeus</i>	1	dried
Preuss's Guenon <i>Cercopithecus preussi</i>	1	adult male: fresh, shot
Putty-nosed Guenon <i>C. nictitans</i>	1	adult female: fresh, shot
Russet-eared Guenon <i>C. erythrotis camerunensis</i>	2	adult female: fresh, shot
Mona monkey <i>C. mona</i>	2	1 juvenile female/1 adult male, fresh, shot

Table 4. Species encountered at Mboassoum market, 6 June 1992.  
Source: Survey by the author

trade in bushmeat, created by consumers from non-Bakossi towns and cities, begins operation. Traders regularly attend these markets to pick up animals for restaurants specialising in bushmeat dishes from as far as Douala (150 km south). Animals are sold alive, as whole fresh carcasses and in dried portions.

The comparative amounts of bushmeat sold on markets and that which is consumed locally is unknown. Further research into the external demand for bushmeat is needed. Reports from and observations made at four bushmeat pick-up points identified in this survey: Mboassoum, Bangem, Belo (approximately 1.5 km south-west of Nsoug), and Nyandong, indicate that outside traders visit markets once a week, there may be more than one buyer, and all the bushmeat is usually sold by very early in the

morning. Mboassoum market was a regular bushmeat pick up point for a trader who sells weekly to restaurants in Nkongsamba and Douala.

More frequently than whole carcasses, bushmeat is available for immediate consumption at market food stalls and in bars. Sold in pepe (spice) soup, it is standardly priced at CFA100-CFA200 for one portion, regardless of species. The amount consumed in this way depends entirely on the type and frequency of social activities e.g. bars are common in roadside villages but were never observed in those of remote areas.

Although it may be the case that bushmeat is important in the diet of urban dwellers (Martin, 1983), the rate of consumption seems predominantly dictated by preference of taste rather than a lack of alternatives. Chicken, beef, pork and fish are commonly available in urban restaurants and from street corner 'chop stalls' at cheaper prices than bushmeat (pers. obs.). Within rural Bakossiland this situation appears to be reversed, where bushmeat is obtained either free at source or at relatively low prices directly from the hunter (see Table 3).

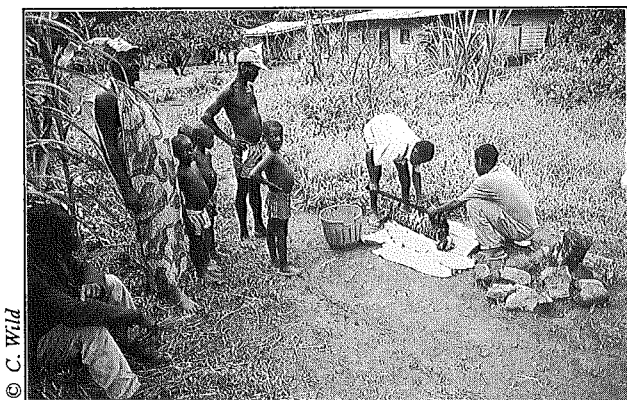
In Bakossiland, the commercial value of bushmeat is significant because it is more profitable to sell on markets to commercial bushmeat buyers than to sell locally. The fact that bushmeat leaves the area may result in the sacrifice of the protein value of meat that could otherwise have been consumed locally. It may also have a considerable influence on the amount of hunting and trapping taking place and therefore decline in animal abundance.

Cash gained by local people might be considered as compensation. However, when viewing this in the context of the micro economy, this is hardly a fair exchange. The majority of the cash from bushmeat sales is in the control of the male population (i.e. hunters) whose financial responsibilities often lie with the cash crop sector (Fapohunda, 1983). It may therefore be deduced that any cash finding its way back into the family purse is not necessarily reinvested in food but may be diverted into cash crops for which farmers are poorly rewarded.

Throughout the African forest zones the unmonitored commercialization of bushmeat will ultimately lead to socio-economic problems for the indigenous hunters concerned. When demand exceeds sustainable levels the abundance of animals along with the income from hunting will decline. More importantly, however, the depletion of game threatens the traditional security of subsistence hunting (Bailey and Hewlett, 1992; Mackenzie, 1987).

#### OTHER UTILISATION OF WILDLIFE

The main purpose of hunting is to gain meat to consume or sell; other methods of utilisation seem to be entirely incidental to this and, if this is the case, are unlikely to have any significant influence on mammal densities. Animal skins which had been dried for decoration were recorded on three occasions: African Civet ( $n=1$ ), Bushbuck *Tragelaphus scriptus* ( $n=1$ ) and Small-spotted Genet *Genetta servalina* ( $n=1$ ). Skulls of buffalo ( $n=3$ ), chimpanzee ( $n=2$ ) and Drill ( $n=2$ ), also used for decorative purposes, were recorded. Two chelonian shells - Serrated



Freshly trapped African Civet *Viverra civetta* being butchered in compliance with traditional communal meat-sharing customs in Ekeh, western Bakossiland.





Trapper with Two-spotted Palm Civet *Nandinia binotata* from Mount Kupe.

© C. Wild

Tortoise *Kinixys erosa* and West African Black Forest Turtle *Pelusios niger* - were retained for use as bowls (C. Wild, pers. comm., 1992).

Traditional medicine and magic are very much part of Bakossi society and animal derivatives are a common element of their practice. Snakes are commonly cited animals associated with healing and they have a strong cultural significance (Stucki-Stirn, 1979): the fangs of the Rhino-horned Viper and Gaboon Viper are used in folk medicine to lance boils and abscesses. Chameleons Chamaeleonidae in particular, which are common throughout Bakossiland, were described as mystical animals. In western Bakossiland it was reported that dried, powdered chameleon mixed with herbs is used to enable the human voice to be heard and to bestow authority. The mixture is taken by mouth or introduced into the blood stream via a cut (C. Wild, pers. comm., 1992).

Chimpanzee bones are valued for mending broken bones and sprains; the bone corresponding with the damaged part of the patient is boiled in water and the liquid applied to the skin. Primate skulls may be of commercial value in southern Nigeria where they are used in connection with magic (Happold, 1987); in Bakossiland it was reported by one hunter that a chimpanzee skull sold to a Nigerian trader may fetch a price of CFA10 000. Prosimian skins are dried and kept for their hairs which are rubbed on the skin to heal burns.

## LOCAL PERCEPTIONS OF WILDLIFE

Generally, discussion on wildlife centred around its value as food or the potential threat to human lives of larger mammals and venomous snakes. Some individuals expressed discontent at having to travel into forests which they considered to be full of dangerous animals and represented rural poverty. This does not necessarily reflect a society in conflict with the natural world but perhaps a society concerned with its immediate basic needs, with little leisure to contemplate purely aesthetic values.

Damage to valuable crops naturally creates conflict between farmers and wildlife. Tantalus and Mona Monkeys are considered to be common crop pests throughout the area and may do extensive damage; one hunter reported that "they finish farms and multiply terribly". Elephants and buffaloes are often feared and were reported to cause serious damage to crops, and on two occasions buffaloes were blamed for killing goats.

Perhaps ironically, it was only the hunters that expressed any admiration for, or curiosity about, the creatures that surround them. Hunters expressed great enthusiasm recollecting the behaviour of chimpanzees and showed considerable respect for the animals' physical might. Not surprisingly, the chimpanzee was the focus of such interest as it "makes a house", "drums on trees in the evening", "shouts to warn it's friends of danger", "goes hunting", "dances in the forest" and above all "looks just like a man".

Clearly, decline in the local abundance of mammals as a source of food and income is of immediate consequence to hunters and eventually other members of the community. Some 57% of those interviewed acknowledged some degree of mammal decline. Information was often very specific indicating prominent decline in certain species or even local extinction. Discussion as to how this had come about was brief and sometimes dismissive. Many hunters blamed outsiders using their hunting area, whilst others thought that the animals had wandered on to other areas and would eventually return. Some openly attributed the decline to increased use of firearms and, another, to local economic pressures.

Although the majority of mammal species occurring in Bakossiland are hunted and consequently consumed, certain customs exist governing the killing and eating of wild animals. Mythology surrounding fauna (and flora) is widespread in West Africa, including Bakossiland, and stems from ancient animist concepts (Okpewho, 1983). Whilst these beliefs remain in high regard culturally, in actual practice they are not strictly adhered to.

### Common taboos recorded in this area are as follows:

1. If a person has a spiritual bond (which is sometimes inherited) with a certain species of animal, they may not be able to kill or eat it. However, it is not usual to refrain from either killing or eating. This is also the case in southern Nigeria (Gadsby, 1990).

2. Some people who practise witchcraft choose to transform themselves into a particular kind of animal. These people are referred to as 'times two' and the animals most associated with this belief are chimpanzees and elephants, apparently chosen in order to obtain their strength. 'Times two' people cannot eat or kill their 'totems' and if one is killed near a village, a 'times two' person may also be found dead.

3. Throughout Bakossiland a pregnant woman may not eat (a) the meat of the Russet-eared Guenon for fear of miscarriage or death in childbirth; (b) prosimians, for fear of giving birth to an ugly or deformed child; or (c) civet cats, as it is believed that they prevent lactation.

Several people claimed that either they themselves, or people they knew, did not eat chimpanzees because of their likeness to humans. This appears to be a moral decision rather than a cultural taboo but, like taboos, acknowledgement of the concept does not necessarily mean carrying it through into practice. It was also reported that soup sellers may sell chimpanzee at a lower price than other bushmeats because of this controversy. However, taking into consideration the great protein value of bushmeat and the large size of the animal, it seems unlikely that any significant number of people actually refrain from eating it. Similarly, the commercial demand for bushmeat renders it improbable that hunters ever neglect to try and kill chimpanzees when encountered.

The influences of western culture and alien religious concepts that ardently attack animism (Ejedepang-Koge, 1986; Mbuy, 1989) may significantly contribute to the apparent deterioration of taboo observance. This is evident in a comparison between attitudes towards taboos in remote villages and those from the more developed 'small towns' where social life is diversified by immigrants, traders, hospitals, schools and churches. For example, in these small towns cooked bushmeat is often eaten in bars. In this situation it is easily understood how a person forbidden to eat a certain species by taboo may unwittingly do so. After realizing the fact and observing no ill effects, the taboo's 'curse' would be seen to be ineffective and consequently disregarded (Ngome Ekiti, pers. comm., 1992). Hence taboos against killing, and eating particular species are observed to a certain extent, perhaps more amongst the elder generation, but not to any degree that can really be considered as beneficial to local animal populations.

## CONCLUSION

The Bakossiland forests are an important reservoir for several vulnerable and endangered primate species. Preuss's Guenon and the Drill are particular concerns on the conservation agenda (Groombridge, 1993; Oates, 1985) and this survey indicates that both species are represented by viable populations in western Bakossiland. The region is also of

significance for crocodilians and many endemic montane chameleons and anurans (Wild, in press; 1993).

Changing land use patterns e.g. the expansion of cultivation, will result in habitat fragmentation and genetic isolation for species dependent on forest cover (Happold, 1987). Bakossi forests are already partially fragmented in the south-east i.e. the Mount Manenguba to Mount Kupe forests, and the full impact of this on the faunal populations needs to be assessed.

Throughout West Africa, commercial demand for bushmeat is significant (Martin, 1983; Oates, 1986; Infield, 1988; Gadsby, 1990; Adams and McShane, 1992) and the effect of this on the level of hunting in forest zones clearly needs to be monitored. An investigation into the urban demand for bushmeat would be of great value to ensuring that all cultural and commercial aspects of the trade are fully evaluated. If a serious decline in the abundance of mammals is to be avoided, people living near forests need real economic and nutritional alternatives to bushmeat (Infield, 1988).

The problems facing the Bakossi forests are complex. The human population is slowly encroaching on the forests and changing their structure and extent. Roadside towns and villages are developing modern economies and new cultural ideas to accommodate an increasingly heterogeneous society. The Upper Mungo and the Jide Valley in particular have been colonized by non-Bakossi seeking new farmlands. Similar situations exist elsewhere in West Africa as populations grow and move, and cash farming and cash hunting take priority over subsistence lifestyles (Adams and McShane, 1992; Bailey and Hewlett, 1992). Whilst for the people concerned this situation is an economic necessity, the resulting social change may sadly be indicative of breakdown in the concept of indigenous 'ownership' of the forest. Without the guardianship of tradition, and an environmentally viable economy, Bakossiland may be in danger of losing the long-term security of its valued natural resources.

## ACKNOWLEDGEMENTS

Special thanks to Elizabeth and Chris Bowden of The Mount Kupe Forest Project for logistical and financial support; to Liza Gadsby and Peter Jenkins who offered their valuable advice on hunter interview technique; to Paramount Chief R.M. Ntoko for his letter of introduction; to Ebong Emanuel, Forestry Officer, who assisted as guide and interpreter; and to Mr Ngome Ekiti for sharing his wealth of local knowledge. Thanks also to sponsors: my family, Banham Zoo and Monkey Sanctuary (Norfolk), and Mr and Mrs Wild. Comments on this manuscript by Malcolm Whitehead, Chris Bowden, Chris Wild and Caroline Harcourt were much appreciated. The field work was conducted in conjunction with a herpetological survey of the same area by Chris Wild to whom I am grateful for much assistance and continual support. Finally, I would like to thank sincerely the Chiefs, people, and hunters of Bakossiland for their generous hospitality and willingness to communicate the information on which this survey was entirely dependent.

## REFERENCES

- Adams, J.S. and McShane, T.O. (1992). *The Myth of Wild Africa: Conservation Without Illusion*. W.W. Norton & Company, Inc., London, UK.
- Bailey, R. and Hewlett, B. (1992). Forest people. In: Sayer, A., Harcourt, C.S. and Collins, N.M. (eds), *The Conservation Atlas of Tropical Forests Africa*. Macmillan, UK. Pp.43-48.
- Berlin, B. (1992). *Ethnobiological Classification*. Princeton University Press, USA.
- Ejedepang-Koge, S.N. (1986). *The Tradition of a People Bakossi*. ARC Publications.
- Fapohunda, E.R. (1983). Female and male work profiles. In: Oppong, C. (ed.), *Female and Male in West Africa*. George Allen and Unwin Ltd, UK. Pp.32-53.
- Gadsby, E. L., (1990). *The Status and Distribution of the Drill Mandrillus leucophaeus in Nigeria*. Report to Wildlife Conservation International, WWF (US), WWF (UK) and the Nigerian Government.
- Gartlan, J.S. (1975). The coastal rain forest and its primates - threatened resources. In: G. Bermant and D.J. Linburg (eds), *Primate Utilisation and Conservation*. J. Wiley, New York, USA. Pp.67-82.
- Gartlan, J.S., Besong, J.B., Crosby, M. and Doumenge, C. (1992). Cameroon. In: Sayer, A., Harcourt, C.S. and Collins, N.M. (eds), *The Conservation Atlas Of Tropical Forests Africa*. Macmillan, UK. Pp.110-118.
- Gartlan, J.S. and Struhsaker, T.T. (1972). Polyspecific associations and niche separation of rain forest anthropoids in Cameroon, West Africa. In: *Journal of Zoology* 168:221-266.
- Gautier, J.P., Maoyan, F., Feistner, A.T.C., Loireau, J.N. and Cooper, R.W. (1992). The distribution of *Cercopithecus (L'hoesti) solatus*, an endemic guenon of Gabon. In: *Rev. Ecol. (Terre Vie)*, 47:367-381.
- Groombridge, B. (ed.) (1993). *1994 IUCN Red List of Threatened Animals*. World Conservation Monitoring Centre, Cambridge, UK. IUCN, Gland, Switzerland, and Cambridge, UK. Iv. + 286pp.
- Happold, D.C.D. (1987). *The Mammals of Nigeria*. Clarendon Press, Oxford, UK.
- Infield, M. (1988). Hunting, trapping and fishing in villages within and on the periphery of The Korup National Park: Paper No. 6 of the Korup National Park Socio-economic Survey: Prepared by the World Wide Fund for Nature: Publication 3206/A9.6
- Kavanagh, M. (1978). Monkeys' new home in the forest. *New Scientist* 77:515-517.
- Kingdon, J. (1990). *Island Africa*. William Collins Sons & Co. Ltd, UK.
- Mackenzie, J.M. (1987). Chivalry, social Darwinism and ritualised killing; the hunting ethos in Central Africa up to 1914. In: Anderson, D. and Grove, R. (eds), *Conservation in Africa: Peoples, Policies & Practice*. Cambridge University Press, UK. Pp.41-61.
- Martin, G.H.G. (1983). Bushmeat as a natural resource with environmental implications. In: *Environmental Conservation*. 10(2):125-132.
- Mbuy, T.H. (1989). *Encountering Witches & Wizards in Africa*. Privately published. Bishop Rogan College, Soppo, Buea, Cameroon.
- Oates, J.F. (1985). *Action Plan for African Primate Conservation: 1986-1990*. IUCN/SSC Primate Specialist Group. Stony Brook, New York, USA.
- Oates, J.F. (1986). Primate conservation in West Africa. In: Stevenson, M.F., Chivers, D.J. and Ingram, J.C. (eds), *Current issues in primate conservation*. *Primate Eye* 29, Supplement, June. Pp.20-24.
- Okpewho, I. (1983). *Myth in Africa*. Cambridge University Press, UK.
- Stucki-Stirn, M.C. (1979). *Snake Report 721: a Comparative Study of the Herpetological Fauna of the Former West Cameroon, Africa*. Herpeto-Verlag, 3623 Teuffenthal, Switzerland.
- White, H.P. and Gleave, M.B. (1972). *An Economic Geography of West Africa*. Bell & Sons Ltd, London, UK.
- Wild, C.J., (in press). Introduction to the herpetofauna of the Cameroon Highlands. In: *Proceedings of the 1983 ASRA Seminar on Ecology of Reptiles and Amphibians*. Association for the study of Reptilia and Amphibia. Burford, UK.
- Wild, C.J., (1993). Notes on the rediscovery and congeneric associations of the Pfeffer's Chameleon *Chamaeleo pfefferi* (Tornier 1900) (Sauria:Chamaeleonidae) with a brief description of the hitherto unknown female of the species. *British Herpetological Society Bulletin* 45. Pp.25-32.

Sadie King, c/o 2 West Way, Tacolneston, Norwich, Norfolk NR16 1B2, UK.



### Study of Timber Certification and Labelling Schemes

The 15th Session of the International Tropical Timber Organisation was held in Yokohama, Japan, from 10 to 17 November 1993. Informal discussions on the renegotiation of the ITTA took place in parallel with the Council Session. However, the major point of interest was the continuation of discussions from the last meeting on certification and labelling of timber. Some members were pushing for ITTO to take the lead in the development and implementation of timber certification schemes, however, in the end a more cautious approach was agreed. A decision was taken to engage two consultants to gather information and compile an inventory of timber certification and labelling schemes; this study would cover all types of timber, not just tropical timber. Their findings will be examined by a working party open to all ITTO members, with the findings of the working party to be considered at the next ITTO meeting (May 1994).

During the meeting, a statement was read out on behalf of tropical timber producing countries which was highly critical of the Netherlands Framework Agreement on Tropical Timber. The Agreement is a joint one between Government, environmental groups, labour unions and the timber trade, aimed at implementing the Dutch Government's policy for all imports of tropical timber into the Netherlands to be sourced from sustainably managed forests after 1995. At the ITTO meeting, tropical timber producing countries called the Dutch Agreement unilateral and discriminatory and urged the Netherlands to call off its implementation.

*TRAFFIC Oceania*

## == STOP PRESS ==

### ITTA Focuses on Tropical Timber

Efforts to expand the scope of the International Tropical Timber Agreement (ITTA) to include sustainable management of timber from temperate and boreal sources by the year 2000, has failed.

The final renegotiation for a successor agreement to ITTA took place in Geneva from 10 to 26 January 1994. At the meeting, delegates from temperate consumer countries resisted pressure to include their forests under the terms of the Agreement and instead expressed their intention to manage their forests sustainably by the year 2000 outside the ITTO forum.

At the meeting, the Committee on Economic Information and Market Intelligence was instructed to analyse trade data for all international timber, not just that from tropical sources.

*TRAFFIC International; WWF Press Release, 24 January 1994*

### South American Countries Seek to Control Plant Smuggling

The CITES Management Authority in Paraguay has called upon TRAFFIC South America for its support and advice following the discovery that the cycad *Cycas revoluta* (CITES Appendix II) and CITES-listed orchids and cacti which have been legally exported from Paraguay to European destinations over the past three years, have in fact been illegally brought into the country from Brazil. The plants are said to come from the city of Corupa in Santa Catarina. There is also evidence that the trunks of giant ferns Cyatheaceae are fashioned into containers in which plants such as orchids are brought out of Brazil through Foz do Yguazú and into Paraguay via Ciudad del Este.

Similar problems of plant smuggling through the border at Falcon in Asunción and Clorinda in Argentina have been reported. Owing to the difficulty in overseeing all activities along these countries' borders, officials from Paraguay's CITES office have visited Customs officials in towns bordering Brazil and Argentina to inform and advise them of the illegal activities and to seek their co-operation; from these visits it has emerged that authorities have either been unaware that the species are listed in CITES or that presentation of permits has not been requested. Another problem to be addressed is the fact that those authorities charged with issuing permits are situated far from Paraguay's borders - in Rio de Janeiro, Brasilia and Buenos Aires.

At a meeting of TRAFFIC South America with the CITES Management and Scientific Authorities of Argentina, Brazil, Paraguay and Uruguay, on 10 and 11 December 1993, it was agreed that efforts would be combined to improve enforcement and to uncover these illegal activities.

*CITES Scientific Authority, Paraguay, in litt. to Juan Villalba Macias, TRAFFIC South America, 1 October 1993; TRAFFIC South America*

### Tanzania Bans Exports of Raw Timber

The call made at the Earth Summit in Rio de Janeiro, Brazil (Agenda 21), for countries to preserve natural forests has prompted Tanzania to ban the export of unworked hardwood. The ban took effect on 11 June 1993. A total of 33 exporting companies were affected by the ban. Teak from plantations managed by the Tanzania Wood Industry Corporation would continue to be exported and local companies would be encouraged to export hardwood in finished and semi-finished form, instead. Harvesting of trees, however, would be scaled down and prohibited in catchment areas, river banks and valleys as it is believed such activity was the cause of recent floods in the country.

*TRAFFIC East/Southern Africa (Tanzania)*

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

## EUROPE

### BELGIUM

On 6 September 1993, at Zaventem airport, Customs officials seized a shipment of small ivory blocks. The goods, which had been stained brown, had been sent express mail from Kinshasa, Zaire, to Singapore via Belgium. The 52 kg of ivory had been cut by machine, the pieces being of a uniform size 6.6 cm and 2 cm x 2 cm in diameter.

TRAFFIC Europe

### BULGARIA

In June 1993, in separate incidents, the Forestry Service of the Ministry of the Environment penalised three individuals for collecting a total of 72 specimens of Hermann's Tortoise *Testudo hermanni* and Spur-thighed Tortoise *T. graeca* (both App. II). The animals were returned to the wild.

Of 41 African Grey Parrots *Psittacus erithacus* confiscated in two separate incidents from one or more Nigerians at Sofia airport in June, 22 remain alive and are being cared for at Sofia Zoo. Discovery of one of these consignments arose following a tip-off from a maid at an hotel, who reported the discovery of some dead birds that had been disposed of by a Nigerian who was staying there whilst in transit. The man was searched by Customs the following day as he prepared to board a flight to Istanbul. No charges were made as he was in transit.

On 12 August 1993, 330 Bulgarian and 100 Polish peace-keeping soldiers landed in Burgas, having travelled from Cambodia via Bangkok. When questioned by Customs about animal excrement found in some items of luggage, the soldiers stated that a number of monkeys, pythons and other specimens had been confiscated in Bangkok. One civet was confiscated and has been placed in Sofia zoo.

Animals have been confiscated on two previous occasions at Sofia airport from Bulgarian soldiers returning from Cambodia (see *TRAFFIC Bulletin* 14(1):36).

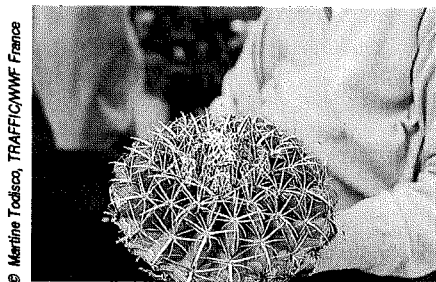
TRAFFIC Europe

### FRANCE

In early February 1993, 3 Asian Elephants *Elephas maximus* (App. I) arrived at the port of Le Havre from Riga, Russia; the animals belonged to the Circus of Russia which had arrived to tour under the banner of the Arlette Gruss Circus. No CITES import permits were provided and despite recommendations by the French CITES Management Authority to refuse the animals entry into the country, the elephants were disembarked for welfare reasons following their lengthy

journey. Shortly afterwards, they began their tour with the agreement of the French Ministry of Culture. CITES enforcement officers investigated the circus and found, in addition to the elephants, 10 Leopards *Panthera pardus*, 3 monkeys *Cercopithecus* sp. and several macaws, none of them covered by CITES permits. Although the infraction was reported to authorities in Rouen, placing confiscated animals was deemed to be too problematical and the animals were left with the circus. The French office of TRAFFIC Europe has lodged a complaint with the authorities over the irregularities of this case.

In February 1993, Customs officers at Orly airport seized 390 specimens of cacti from the luggage of members of a cacti-fanciers group who were returning from a collecting trip in Mexico. The plants were identified by the National Museum of Natural History (CITES Scientific Authority) as being wild-collected specimens of *Stenocereus*, *Ferocactus*, *Coryphanta*, *Neobuxbaumia*, *Echinocereus*, *Echinofossulocactus* (= *Stenocactus*), *Marginatocereus* (= *Pachycereus*) and *Dolichotele* (*Mammillaria*). Over half of the plants belonged to *Mammillaria*, and included 9 specimens of *Mammillaria solisioides* (App. I). Some of the cacti were over ten years' and maybe as much as 100 years' old. The Museum has been entrusted with their care, most of which were badly damaged. The estimated value of the plants is FF200 000 (US\$40 000).



One of the cacti specimens seized at Orly airport.

In March 1993, the Office National de la Chasse seized from a trader the following App. I species: 1 Golden Conure *Aratinga guarouba*, 1 Salmon-Crested Cockatoo *Cacatua moluccensis*, 1 Hyacinth Macaw *Anodorhynchus hyacinthinus*, 7 Scarlet Macaws *Ara macao*, 4 Blue-and-yellow Macaws *Ara ararauna* and 2 Yellow-crowned Amazons *Amazona ochrocephala*. In addition, 250 Goldfinches *Carduelis carduelis*, a protected species in France, were confiscated. The case is under investigation.

TRAFFIC Europe (France)

### GREECE

On 14 November 1993, Greek Customs officials seized two young female Chimpanzees *Pan troglodytes* (App. I) from a photographer travelling with an Italian circus. The chimps were dressed in clothes and posed with children for photographs; allegedly the photographer had purchased the animals in Spain but their country of origin is unknown. Although Greece has not enacted legislation to implement CITES following its accession to the Convention in January 1993, advice from TRAFFIC led to authorities

invoking Customs contraband legislation. Over the past year, TRAFFIC has called attention to possible violations by at least eight circuses in Greece but this is the first seizure of this kind. The chimps have been placed in a rescue centre in the UK and a court case is pending.

The photographer had been previously charged with illegal possession of 3 Chimpanzees whilst travelling with a circus in Leghorn, Italy, in 1992 (see *TRAFFIC Bulletin* 13(1):34). That case is still pending.

On 31 December 1993, Greek authorities, accompanied by a representative from the Hellenic Wildlife Hospital, confiscated over 100 European songbirds from a shop in Athens. The birds included Robins *Erithacus rubecula*, Blackbirds *Turdus merula*, thrushes *Turdus*, Greenfinches *Carduelis chloris*, Hawfinches *Coccothraustes coccothraustes*, Red Crossbills *Loxia curvirostra* and various other species of finch, all of which are protected by Greek law implementing EU legislation. The birds were taken to the wildlife hospital and most have been released in the wild. Over the years, a number of native birds have been seized from the same shop, but resulting fines have been small. A trial date has not yet been set.

TRAFFIC Europe

### ITALY

As a result of routine controls on wildlife imports at Palermo airport, forestry police confiscated a shipment containing 1490 cacti arriving from Peru. The plants were accompanied by a certificate stating that they had been artificially propagated. The exporter claimed that the plants were offsets or cuttings cultivated in the open air and therefore had the aspect of wild-collected plants. Upon close inspection, however, only 300 specimens were found to have been propagated. Specimens of the genus *Copiapoa* were amongst those found to be wild-collected.

TRAFFIC Europe

### NETHERLANDS

In November 1993, at Rotterdam harbour, a shipment of almost 1.9 million Tree Sparrows *Passer montanus*, with a weight of 33 t, was seized by Dutch authorities; the shipment was en route from China to Italy. European legislation prohibits the import of these birds, which are considered delicacies and sold either ready-plucked in food stores or processed into pâté. The case is under investigation.

TRAFFIC Europe

### NORWAY

On 7 October 1993, at Fornebu International airport, Oslo, an SAS cargo handler discovered 3.5 t of Minke Whale *Balaenoptera acutorostrata* in a container being loaded onto a Lufthansa airliner bound for Seoul, South Korea, via Frankfurt. The detection arose because the container, marked 'Norwegian shrimp', was damaged and the meat was clearly visible. The discovery was immediately reported to Customs officials.

ctd ...

## SEIZURES AND PROSECUTIONS

Although Norway resumed commercial whaling of Minke Whale in 1993, with a domestic quota of 296 for the season, export was prohibited. Norway has issued no permits for exports of whale products. The meat has been returned to the cold storage room of the transport company, pending a decision.

*Verdens Gang (Norway), 11 October 1993;*  
*TRAFFIC International*

### UK

Two shipments of ivory, painted brown, and sent through the post from Malawi to Taiwan, via the UK, were seized in May and June 1993. The shipments comprised carvings and each weighed 3 kg-4 kg.

On 7 January 1994, Customs officers at Heathrow airport seized a shipment containing 788 reptiles and amphibians, including 397 Royal Pythons *Python regius* (App. II), that had been illegally imported from Ghana on 23 December 1993; an import ban on this species had been imposed by the EU on 1 December. During the period of their detention the animals have been cared for at the animal quarantine station at Heathrow. This is the largest-ever seizure of reptiles and also the largest consignment of Royal Pythons ever seized in the UK.

*TRAFFIC International; H.M. Customs & Excise News Release, 7 January 1994*

## AFRICA

### SOUTH AFRICA

On 14 September 1993, at Johannesburg Magistrates' Court, Godfrey Sibiya and Silo Lubisi, both of Soweto, were found guilty of illegal possession of ivory tusks and of trying to deal in ivory. Sibiya was sentenced to a fine of R20 000 (US\$6000) or three years' gaol; Lubisi, a fine of R10 000 or two years' gaol.

On 22 September 1993, at Johannesburg Magistrates' Court, Chin-hsing Chan was sentenced to a fine of R6000 (US\$1800), or 18 months' gaol, for attempting to smuggle ivory tusks weighing a total of 20 kg.

On 16/17 October 1993, three men were arrested in Durban after trying to sell an elephant tusk to members of the South African Narcotics Bureau. The tusk was from Mozambique and was reportedly part of a consignment which included several rhino horns which were on their way to Natal.

On 25 October 1993, a container of elephant ivory was recovered from Durban harbour. The shipment had been destined for the Taiwanese port of Keelung. The ivory, which weighed a total of 486 kg, had been cut into 9907 cubes, some of which had been painted black and brown. A Taiwanese restaurateur and owner of an import-export business appeared at Pretoria Regional Court in November in connection

with the discovery. He was released on bail of R100 000 (US\$30 000); he is expected to appear in Johannesburg Regional Court at a later date. Two other Taiwanese are being sought in connection with the incident. South Africa's Endangered Species Protection Unit is working closely with Taiwanese police and the Zambian authorities on the case.

In November 1993, at Port Elizabeth Magistrates' Court, Gerhard Zaaiman was found guilty of the illegal possession of and offering for sale 4 Red-billed Firefinches *Lagonosticta senegala* and 4 Cut-throat Finches *Amadina fasciata*, species indigenous to South Africa. Zaaiman was convicted of a violation of the *Nature and Environmental Conservation Ordinance, 1974*, of the Cape Province, which restricts possession of most native bird species to parties holding valid Cape Nature Conservation (CNC) permits. He was sentenced to a fine of R600 (US\$180) or two months in gaol, and given a further mandatory sentence of four months in gaol, suspended for five years.

This is Zaaiman's second conviction on bird-related charges. In 1990 he was found guilty of importing 4 Louries *Tauraco* spp. into Cape Province without a permit. He was fined R50.

Seven people have been arrested for their part in the smuggling of 17 cycad plants valued at about R500 000 on the black market. The plants have been recovered.

On 3 January 1994, at Brits Magistrates' Court, Joachim Bjorn Westlin, a Swedish national, was found guilty of stealing 2 Carpet Pythons *Morelia spilota* from Hartbeespoort Dam Snake and Game Park. He was fined R2500 (US\$750) or three years' gaol. The snakes, worth about R40 000, have been returned to the park.

*TRAFFIC East/Southern Africa;*  
*The Star (South Africa), 15/23 September; 26 October;*  
*15 December 1993; 4 January 1994;*  
*Natal Mercury (South Africa), 19 October 1993*

### TANZANIA

Four Russian nationals and a Tanzanian have been released following their arrest on charges of illegal possession of 106 kg elephant ivory in May 1993 (see *TRAFFIC Bulletin* 14(1):37).

In May 1993, at Kisumu Resident Magistrates' Court, two Dar es Salaam businessmen were charged with illegal possession of 546 elephant tusks weighing 799.5 kg; 2122 hippo teeth weighing 730 kg and 45.5 kg of shells. The accused were remanded in custody. The haul was impounded and added to Government stock. The case is under investigation.

In September 1993, Game wardens in Mpanda impounded 16 tusks weighing 55.9 kg and 2 Leopard *Panthera pardus* skins. The trophies had been abandoned by poachers who were being pursued by members of the Anti-Poaching Unit. The poachers have not been apprehended.

*TRAFFIC East/Southern Africa (Tanzania);*  
*Daily News (Tanzania), 6 September 1993*

### ZIMBABWE

Twenty Zambian poachers have recently been arrested in Zimbabwe following skirmishes with Zimbabwean Game Rangers; others escaped with injuries. The Species Protection Department in Livingstone arrested a further 11 who were hunting elephants. All await sentencing.

*The Species-Watch Newsletter, 1(8), October/November 1993*

## ASIA

### HONG KONG

On 1 March 1993, Mr Li Kwok-ching was convicted of possession of 367 wild slipper *Paphiopedilum* orchids without a licence from the Agriculture and Fisheries Department. He was fined HK\$2500 (US\$325). He requested a review of his case but his conviction was confirmed on 14 July 1993 by the Supreme Court. The orchids were confiscated.

On 6 March 1993, Mr Hsu She-Hua was convicted for the fifth time in four years of illegal possession of wild orchids: on this occasion for 86 specimens of *Dendrobium*, *Bulbophyllum* and *Coelogyne*. He had already received a six-month sentence suspended for two years for his last conviction. Owing to a technicality Hsu's suspended sentence could not be enforced for this offence and he was fined HK\$17 200 plus legal fees amounting to HK\$5000 (US\$650).

All wild orchids are protected in Hong Kong under the *Animals and Plants (Protection of Endangered Species) Ordinance, Cap. 187*.

On 11 August 1993, at north Kowloon Magistrates' Court, Jimmy Lai pleaded guilty to charges of illegal possession of an adult Asiatic Black Bear *Selenarctos thibetanus* (App. I). He was convicted and fined HK\$5000 (US\$650).

Lai is reported to be willing to pay for all the expenses to send the bear to China; the authorities in Hong Kong are trying to find a suitable location for the animal.

A total of 1205 shops were recently inspected by authorities and more than 2000 small packets of medicine claiming to contain rhino ingredients were seized. Two pieces of rhino horn and some 6.7 kg of claimed rhino hides were seized from 114 shops. Sixteen owners have been prosecuted and convicted and more prosecutions are expected. One shop owner was fined HK\$5000 (US\$650) for illegal possession of 3 small packets of rhino medicine and another has been fined HK\$4000 for illegal possession of 7 claimed Tiger *Panthera tigris* penises.

*WWF Hong Kong*

### INDIA

In July 1993 police seized 1373 snakeskins from an address in Delhi. The skins had been obtained from a well-known dealer in Madras.

## SEIZURES AND PROSECUTIONS

In July 1993, 2 Indian Rhino *Rhinoceros unicornis* horns were seized by police from residents of Guwahati, Assam.

On 9 July 1993, 740 kg of Jatamansi *Nardostachys grandiflora* were seized at Delhi airport. The plants were being exported to Pakistan. This plant grows at high altitudes in the Himalayan region and is used in medicines and perfumes. This seizure follows India's ban imposed on 1 April 1993 on the export of all medicinal plants of wild origin.

On 31 July 1993, at New Delhi airport, Customs officials seized 3000 snakeskins from an Afghan national who was bound for Teheran, Iran.

In August 1993, skins of 35 Rat Snakes *Ptyas mucosus*, 6 Indian Cobra *Naja naja* and 2 pythons *Python* were seized at Gowripur railway station in Assam.

In August 1993, 40 kg of Tiger bones were seized from a person at Bhairawa on the Nepal border. In a separate incident, 5 Tiger skins were seized from a Tibetan refugee at Dharchula on the border with Nepal.

On 5 August 1993, a consignment of 248 skins of Indian Cobra and 1552 skins of Rat Snake was seized at Palghat in Kerala.

On 23 August 1993 Customs officials at New Delhi airport seized 4621 skins of cobra, Rat Snake and viper which had been concealed in cushions contained in the luggage of 2 Syrian nationals who were bound for Damascus.

On 30 August 1993, as a result of an investigation by TRAFFIC India, Delhi police and the Deputy Director of Wildlife Preservation office seized 283 kg Tiger bones, 8 Tiger skins, 60 Leopard skins and 164 assorted mammal skins (see page 42)

On 2 September 1993, police in North Delhi took possession of 16 Leopard skins and 110 kg Tiger bones which were found in a field. It is suspected that the items had been abandoned following the Tiger bone seizure on 30 August.

On 11 September 1993, police at Muzaffarnagar, Uttar Pradesh, seized 2 Leopard skins from 2 local people who were arrested.

TRAFFIC India

### JAPAN

The *Kokyu* is a traditional Chinese stringed instrument which is lined with skin from the Indian Python *Python molurus* (App. I/II). Customs officials at Narita airport, Tokyo, have noticed an increase in the number of these instruments either abandoned by tourists at the airport, or seized from them: some 300 in 1992, and 400 between January and August 1993.

At the end of 1992/early 1993, five people were arrested in Toyama prefecture for possession of skins of 4 Amur Tigers *Panthera tigris altaica* (App. I) which were included in a shipment of 30 other unidentified skins. The items had been obtained from a Russian sailor who had said more Tiger skins were available.

Asahi (Japan), 3 October 1993; TRAFFIC Japan

### NEPAL

On 1 September 1993, 73 Leopard skins, 19 kg Tiger bones and 158 unidentified mammalian skins were seized by Customs officials at Bhairawa, Nepal.

TRAFFIC India

### SINGAPORE

On 18 March 1993, authorities in Singapore arrested a Taiwanese, Mr Chen Jung Tsung, at Changi airport following the discovery of 220 Asian Bonytongues *Scleropages formosus* contained in four plastic bags in his possession. The fish had been purchased in Pontianak, Indonesia, and were to be brought into Taiwan. No CITES documents accompanied the shipment.

TRAFFIC Taipei

### TAIWAN

Four people have been charged with forgery in connection with a seizure of rhino horn and deer antlers at Chiang Kai-shek International airport, Taipei, in December 1992 (see TRAFFIC Bulletin 13(3):110).

On 27 August 1993, at Taoyuan District Court, Chung Shih-hsiung was gaol for three years and six months; Weng Yuy-liang and Lan Li-lien for three years, and Weng Ching-jung for one year and two months, with four years' probation. The charges were for forgery.

The deer antlers had been shipped from New Zealand via Hong Kong, where it is believed the rhino horns were added to the shipment.

On 8 September 1993, during a raid on suspected drug dealers in Fenglin Town, Hualien police discovered 3 gibbons *Hylobates* sp. and 2 baby Orang Utans *Pongo pygmaeus*. Although initially thought to be bought from the same source as the drugs, the owners now claim the animals were given as a gift, which is apparently legal under the *Wildlife Conservation Law*; it is not yet certain from which country they originated. Three people are being held on drugs charges and the decision of the animals' fate lies with the judge. If the owner is charged and voluntarily releases the animals to the authorities, the Council of Agriculture has said that it will repatriate the animals.

On 8 and 9 September 1993, investigations carried out by the Government led to raids on several medicine shops and art stores in Taipei City. Items seized included one unworked and two carved ivory tusks, one Muntjac *Muntiacus reevesi* micurus paw, two

Hundred Pace Vipers *Deinagkistrodon (Agkistrodon) acutus*, articles thought to be 2 rhino horns, 3 Tiger penises, and 1 Tiger bone were also seized; their identity awaits confirmation. No charges have been made.

On 17 September 1993, Princess Ashi Deki Yangzom Wangchuck, a member of the Bhutanese royal family, was arrested at Chiang Kai-shek International airport, Taipei, following the discovery of 22 Asian rhino horns (14 kg) and 9 bear gall bladders in her luggage.

A staff member of TRAFFIC Taipei was allowed to interrogate Wangchuck shortly after her arrest. During the interview she claimed to have bought the horns over the past year or so (the source was not established) and that the bear gall bladders had been given to her. She had travelled to Hong Kong with the intention of selling the horns to raise cash to pay off a loan from the Bhutanese Government. Wangchuck apparently did not have any contacts in Hong Kong and was unsuccessful in finding any buyers. She had travelled to Taiwan after being advised that the products would fetch a higher price there. She admitted knowing that trade in rhino horn in Taiwan is prohibited.

Although the suspect holds a diplomatic passport, the Foreign Ministry maintained that the case should be handled according to ordinary criminal procedures. Taiwan and Bhutan do not have formal diplomatic ties. Wangchuck remains in custody and faces a maximum of two years' imprisonment.

There is no resident population of rhinos in Bhutan. The horns are believed to derive from the Indian Rhino *Rhinoceros unicornis* in either Assam or West Bengal, India.

On 3 November 1993, Zhuang Zhenghui, manager of Blue World Aquarium, in Taipei, was found guilty of displaying with intent to sell two Asian Bonytongues *Scleropages formosus* in contravention of the *Wildlife Conservation Law*. He was sentenced to 3 months' gaol or an equivalent fine. Zhuang's activities were uncovered following investigation by Government authorities on 16 July.

On 3 February 1994, police discovered a factory in Sanchung district, Taipei, that contained ivory products including 14 whole tusks, 18 semi-worked items, 3 pipes, 11 necklaces and 280 pieces. The two owners were arrested and investigations are being carried out by the police.

TRAFFIC Taipei; TRAFFIC India; Council of Agriculture, Taiwan; Kuensel (Bhutan), 25 September 1993; United Daily News (Taiwan), 4 February 1994

### THAILAND

Akihiko Mitoya of Osaka, Japan, was arrested at Bangkok's international airport on 25 January 1994 after attempting to smuggle 232 wild-collected slipper *Paphiopedilum* orchids (App. I) out of the country. Mitoya appeared in court on 28 January and was charged under *Plant Act B.E. 2518*. He pleaded guilty and was sentenced to a fine of 3000 Baht (US\$118) and a one month gaol term, suspended for one year.

TRAFFIC Japan; Department of Agriculture, Thailand

## SEIZURES AND PROSECUTIONS

### TIBET

The Tibet Government is reportedly making a serious effort to control the trade in the wool of the Chiru *Pantholops hodgsoni* (App. I). Recently wildlife authorities seized thousands of Chiru skins and penalties incurred for offences in this regard have been widely publicised in the country (see also *TRAFFIC Bulletin* 14(1):38/39).

On 8 July 1993, 4 Tiger *Panthera tigris* skins and 11 kg Tiger bones were seized from a person trying to cross into Nepal from Tibet.

Schaller in litt. to A. Kumar, *TRAFFIC India*, 5 December; *TRAFFIC India*

### OCEANIA

#### AUSTRALIA

A total of 420 summonses have been issued recently on 12 boats from Wollongong, Greenwell Point, Ulladulla and Sydney, for exceeding Gemfish *Rexea solandri* quotas. One boat and 130 t of Gemfish worth A\$325 000 (US\$220 000) were seized.

On 5 March 1993, at Hobart Magistrates' Court, Michael Kenny of Beachport, was fined more than A\$30 000 (US\$20 000) after being found guilty on charges of taking and possessing 1598 undersized male crayfish - Southern Rock Lobster *Jasus edwardsii*. Kenny was granted a stay of order after his lawyer argued that his client had no knowledge that the crayfish were undersize and that he would be appealing the decision in the Supreme Court. The appeal was heard in December 1993 but the ruling was upheld.

Customs officers at Adelaide airport arrested bird breeder Leli Ellul after they heard chirping coming from beneath the fly of his trousers. Mr Ellul was found to be concealing 4 Moustached Parrots *Psittacula alexandri* (App. II) that he had smuggled in from Thailand. On 19 November 1993, Ellul was fined A\$22 500 (US\$15 000).

Broad Cast, Newsletter of NSW Fisheries No. 5, September 1993; *The Daily Telegraph* (Australia), 20 May 1993; *The Mercury* (Tasmania), 28 May 1993; *The Independent* (UK), 20 November 1993

### NEW ZEALAND

At the current rate of decline, the New Zealand Pigeon *Hemiphaea novaeseelandiae* faces possible extinction by the turn of the century in Northland, according to Judge D.C. McKeeg, who recently fined Isaac and Martina Kake NZ\$750 (US\$420) each for being in possession of 15 plucked pigeons. The birds had been shot in Puketi Forest by two men who have not been caught. The judge said that the operation was a well-organised business with commercial overtones and that maybe the only way to prevent the bird's extinction is to sentence offenders to gaol.

Forest and Bird Conservation News, No. 82, November 1993

### AMERICAS

#### BRAZIL

Estudillo López Jesús, a Mexican citizen arrested on 13 February 1990 on suspicion of attempting to illegally export 22 birds out of the country to Mexico, has been found not guilty of any offence in relation to this incident (see *TRAFFIC Bulletin* 11(4):70). Jesús had already been released on bail following his arrest.

*TRAFFIC International*

#### FRENCH GUIANA

On 2 October 1993, 12 poison-arrow frogs *Dendrobates* (App. II) were seized at Cayenne Rochambeau airport from a German national travelling to Paris. The amphibians had been hidden in film boxes. French Guiana, a territory of France, prohibits the export of all amphibians.

*TRAFFIC Europe*

#### URUGUAY

Following investigations by *TRAFFIC South America*, authorities made two important confiscations at the end of 1993:

The personal luggage of passengers travelling to Montevideo from Buenos Aires, Argentina, was found

to contain 43 Chaco Tortoises *Geochelone chilensis*, 2 Rainbow Boas *Epicrates cenchria alvarezii*, 2 Common Iguanas *Iguana iguana* (all listed in App II) and 16 non-CITES-listed snakes and lizards. The CITES Management Authority in Uruguay, in co-ordination with Customs and *TRAFFIC*, has returned the animals to authorities in Argentina.

A bag on an Aeroflot airline bound for Moscow was searched by Customs officers at Montevideo airport and found to contain 4 Red-fronted Macaws *Ara rubrogenys* (App. I), a rare bird endemic to Bolivia. The birds were seized and the case is under investigation.

*TRAFFIC South America*

### USA

On 5 July 1993, agents of the USFWS and Customs Service arrested two Taiwanese men as they boarded a flight to Taiwan at Los Angeles International airport. One of the Taiwanese was searched because he was wearing a suspiciously bulging suit jacket; he was found to have 18 snakes in nylon sacks strapped to his arms and legs. Another 34 snakes were found in the couple's hand luggage. The following animals were confiscated: 28 California King Snakes *Lampropeltis getulus californicae*, 7 Sinoloan Milk Snakes *L. triangulum*, 12 Black Ratsnakes *Elaphe o. obsoleta*, and 5 Corn Snakes *E. guttata*.

The California King Snake is protected by California state law which prohibits its commercial export; the export for commercial purposes of Sinoloan Milk Snake, along with most native Californian species, requires a permit. None of the species was federally protected. Many were captive-bred and most had unusual phases or patterns, or were mutations, e.g. albinos. Albino snakes can fetch prices of up to US\$1400 in Taiwan depending on the species. Officials speculate that the smuggling of unprotected species occurred to evade strict Taiwanese import restrictions. The only US requirement for the export of unprotected species is the completion of a declaration of export form at the time of exit.

Uy-te Chen was sentenced to one month in prison and one year probation and has already returned to Taiwan. Chine-kuo Liu, who was convicted of similar charges in 1992, was sentenced to 16 months in gaol and fined US\$20 000 if he re-enters the USA, where he would also be subject to three years' supervised release. He was also prohibited from dealing in reptiles in the USA. Three months of the sentence have already been served.

In 1992, Liu was charged under ESA with failure to declare wildlife and was sentenced to a US\$2000 fine, 5.5 months' gaol and one year supervised release. Reptiles had been found wrapped around his body and contained inside clothing and in hand luggage as he passed through Customs controls.

*TRAFFIC USA; USFWS; Associated Press*, 2 September 1993



Poison-arrow frogs *Dendrobates* sp.

## A Spot Check on the Availability of Rhino Products in Guangzhou and Shanghai, China

Jonathan Loh and Kirsty Loh

### BACKGROUND

The People's Republic of China became a Party to CITES in 1981. In 1988, the Ministry of Forests ordered the registration of stocks of rhino *Rhinocerotidae* horn held by state-owned patent medicine manufacturers and import-export corporations; stocks owned by retail pharmacists or private owners were exempt from registration. By January 1990, a total of 9875 kg of rhino horn had been registered (Martin, 1990). According to the Ministry, this stockpile was being used up at the rate of 600 kg to 700 kg a year (Martin, 1990) and had been reduced to almost 8500 kg by 1992 (E.B. Martin, pers. comm., 1993). Under Chinese law, these horns were treated as pre-Convention stocks which may be sold internally or exported, although the importation of rhino horn is prohibited.

On 29 May 1993, the State Council announced a prohibition on the importation, export, purchase, sale, or transport of rhino horn or Tiger *Panthera tigris* bone into or within China and ordered manufacturers to stop using rhino horn in medicines. All stocks were to be "examined, re-registered, sealed up and properly kept". Existing medicines which contained rhino horn or Tiger bone were to be disposed of within six months or "sealed up and forbidden for sale". It will not be necessary to prove whether or not rhino horn is real; under the new regulations, any product labelled as containing rhino horn or Tiger bone will be treated as such.

### INTRODUCTION

Spot checks of pharmacies in Guangzhou (formerly Canton) by Martin in 1985 and 1987 showed that 17% and 15% respectively sold African rhino horn (Martin, 1989). No rhino horn was seen in the wholesale market on either occasion. Martin also found rhino horn in Xian in 1985 and in Chengdu in 1987. On both trips, pharmacies visited in Beijing, Tianjin, Shanghai and other Chinese cities did not possess rhino horn although traditional medicine manufacturers continued to use it as an ingredient in medicines for export (Martin, 1989).

Just prior to the Government's trade prohibition announced in May 1993, TRAFFIC Taipei carried out a brief investigation on 20 to 25 May 1993 in order to determine whether or not rhino horn was available in pharmacies in Guangzhou and Shanghai. These cities were selected because they represent two of the fastest-growing centres of trade and commerce in mainland China. Guangzhou is one of the cities for which there is a record of trade in rhino horn, whereas rhino horn has

never been recorded as being sold in Shanghai. If found to be available in China, the investigation also sought to compare the price and availability of rhino horn with Taiwan.

### METHODS

In Guangzhou, the wholesale market for medicinal substances in Qing Ping Road and pharmacies in the city were visited by one of the authors and two local residents, both Cantonese-speaking. The investigators asked for rhino horn in each pharmacy visited and, if available, asked to see it. They also looked for rhino horn openly on display in the market.

Pharmacies in Shanghai were visited by one of the authors using the same approach as in Guangzhou. A visit was also made to the offices of the Shanghai Medicinal Herbs Corporation, a manufacturer of patent medicine and supplier of prepared herbs.

### RESULTS

#### Guangzhou

Articles said to be rhino horn were seen in four out of eight pharmacies visited; most of these were said to have been imported from India. It is the view of the authors, however, that the horns seen were fakes. In each pharmacy the prices were comparable, with an average of RMB 214.63 a gram (US\$21.45 a gram). Two of the pharmacies in possession of 'rhino horn' were Government-owned.

Three traders were able to supply African rhino horn in the wholesale market (see Table). Two had one whole horn each and the third had a bag of horn pieces. The whole horns were genuine, one weighing 300 g and the other estimated to be 1.5 kg. The average price was RMB 13 333 a kg. One trader reported that recently the price had fallen considerably although was unable to explain why. Other traders said that they could supply rhino horn if requested but had none on display; such results were discounted.

Material purported to be rhino skin was available in four pharmacies at an average price of RMB 25.44 per 10 g.

Qing Ping Market	Item	Price (RMB)
Stall A	whole horn (300 g)	12 000/kg (300 g=3600)
Stall B	whole horn (c.1.5 kg)	15 000/kg
Stall C	pieces	13 000/kg
Average		13 333/kg
US\$/kg		1 333

Wholesale price of African rhino horn in Guangzhou, 20-21 May 1993.

Prices converted from Renmin bi (RMB) to US\$ at actual market exchange rates US\$1=RMB10.

## SHORT COMMUNICATION

### Shanghai

No whole rhino horn or pieces of rhino horn were seen in Shanghai. A product described as powdered African rhino horn was available in five of the nine pharmacies visited. The powder was packaged in glass phials, produced in each case by the Shanghai Shi Yao Cai Gong Si (Shanghai City Medicine Company), and was labelled as containing 0.3 g of *Pulvis Cornu Rhinoceri Africani*. The price of each phial was RMB 17.70.

A representative of the Shanghai City Medicine Company explained that the company had stopped producing powdered rhino horn since its stock of horn ran out at the beginning of 1992. The stock had been imported five years earlier at a cost of US\$5000 a kg. No rhino horn had been bought by the company since then and the product still available in pharmacies derived from old stock. Upon enquiry at pharmacies which sold the rhino horn powder, however, it was claimed that the product was still available from the company. Asked if they would be able to provide a large quantity for export, one pharmacy said that they could. The same pharmacy sold a well-known patented medicine "Angong Niu Huang Wan" (Angong Cow's bezoar balls), produced in Shanghai, and a similar product with the same name but spelt "An Kung", produced by the Tong Ren Tang factory in Beijing. Both listed rhino horn as an ingredient: "*Cornu rhinoceri* 5.56%" in the Shanghai medicine and "*Cornu Rhinoceri Asiatici* 20%" in the Beijing product. Another pharmacy sold the Beijing product, but from more recent stock, with ingredients which listed Baikal Skullcap Root *Radix Scutellariae* in place of Asian rhino horn.

No pharmacies had any powder that had been ground on the premises. None of the pharmacies visited had Asian rhino horn, whole or powdered.

One pharmacy offered rhino bezoar powder (ground rhino gall stone) for RMB 192.00 a gram - a price comparable with Asian rhino horn. This has not been previously identified in trade and may have been mislabelled.

### DISCUSSION

It is likely that the rhino horns offered for sale in pharmacies were fake. The African horn displayed in the wholesale market was genuine, however, and was offered at a price slightly lower than for that which was available in the Taipei wholesale market (approximately US\$1300 a kg cf. US\$1600 a kg).

The increase in the availability of rhino horn in the wholesale market and the indication of increased demand in the retail pharmacies is of concern. The Chinese economy is currently growing at an unprecedented rate, particularly in the southern and eastern seaboard provinces, where annual growth has been well over 10% since 1990. The danger is that the greater availability of cash and the rising prosperity of private businesses will lead to an increase in the demand for rhino horn by pharmacists, as it apparently did in Taiwan in the 1970s and 1980s. Furthermore, in southern China especially, traditional uses of animals and animal products are not changing. On the contrary, the use of exotic species for medicine or meat may well increase as it becomes more affordable for the new consumer class.

In Shanghai, where the range of animal species traditionally used has never been as wide as in southern China, only pre-packaged rhino horn powder was available and it was not possible to ascertain whether this was genuine. Shanghai, however, has also exhibited rapid economic growth over the past three years, at least comparable with that of the southern provinces. There is therefore a risk that medicine manufacturers and pharmacists will be encouraged to purchase new rhino horns as business develops.

It is interesting to note the presence of rhino bezoar powder, the ground gall stone of the rhino, which has not previously been recorded in the trade. It is not known whether the product seen was genuine or not. Cow's bezoar or cow gall stone powder is used in traditional Chinese medicine, often in conjunction with rhino horn. Rhino bezoar is mentioned in some Chinese herbals, with one reference dating back to a text attributed to Hua Tuo, a physician from Anhui Province in the second century A.D. (Keys, 1976; Sun, 1987).

### REFERENCES

- Keys, J.D. (1976). *Chinese Herbs, their Botany, Chemistry and Pharmacodynamics*. Japan.
- Martin, E.B. (1989). Report on the trade in rhino products in eastern Asia and India. *Pachyderm* 11:13-22.
- Martin, E.B. (1990). Medicines from Chinese treasures. *Pachyderm* 13:12-13.
- Sun, S.M. (ed.) (1987). *Doctor Hua Tuo's Secret Prescriptions*. (Chinese). Taipei, Taiwan.

---

Jonathan and Kirsty Loh, TRAFFIC Taipei



## The Trade in Hill Mynas in India

Vivek Menon

The Hill Myna *Gracula religiosa* is a common bird in the pet trade. It is an accomplished mimic and talker in captivity (Ali, 1979), although such behaviour is not usual in the wild. A member of the family Sturnidae, it is the only representative of its genus in India. It is traded in huge volumes in Indonesia, Thailand, Malaysia, Singapore and Viet Nam (S. Nash, pers. comm., 1994). It is listed in CITES Appendix III in Thailand. In India, *Gracula religiosa* is listed in Schedule IV of *The Indian Wildlife (Protection) Act, 1972* which prohibits hunting of this species without a permit. The exportation of this species was also prohibited in 1972. Despite this, the bird continues to appear illegally in trade and has been fetching high prices since the mid-1990s. Although few quantitative trade data are available, the following communication is based on observations and information gathered during a short trip by the author to the north-east of the country in April 1993.

### DESCRIPTION AND DISTRIBUTION

The Hill Myna is predominantly glossy black, with bright orange-yellow patches of skin and wattles on either side of the head and neck. In flight, a white wing band can be clearly seen on its primary feathers. Four subspecies in India are known to exist in trade and are geographically well separated: *G.r. intermedia* (Himalayan foothills from Kumaon to Assam, Manipur and Nagaland); *G.r. peninsularis* (Chotta Nagpur Plateau, Orissa and south-east Madhya Pradesh); *G.r. andamanensis* (Andaman and Nicobar Islands); *G.r. indica* (Western Ghats, north to Bombay) (Ali and Ripley, 1983). The bird inhabits evergreen, tropical deciduous and semi-evergreen forests. No population study of the species has been conducted, although it is thought that exploitation for the trade has caused the depletion of populations in some areas (Bertram, 1969).

### TRAPPING AND COLLECTION

The main trapping areas in Assam and Meghalaya are Karbi Anglong, North Cachar, Hamren, Haflong, Langteng, Garo Hills, Goalpara and Dhubri (A. Chatterjee, pers. comm. 1993). Alwaye in Kerala is a major trading centre for *G.r. indica* (Sane, 1983). *Gracula r. peninsularis* is caught throughout its range. While there is evidence of all the mainland subspecies being present in the trade, there is little evidence of the occurrence of the Andaman race.

The usual method of trapping *G.r. indica* is with the use of lime sticks and nets. In the north-east, however, the chicks are more commonly removed from their nests.

This practice is either carried out by the trapper climbing the tree or by the placing of artificial nests for the birds' use at more accessible heights in a fork of the tree (Bertram, 1967). A bamboo ladder is used for easy access to the nest. Two to three chicks are removed from the first clutch which the bird replaces with a second clutch of two to three eggs. Once hatched, these too are removed and often a third clutch of maybe only one or two eggs is removed when hatched, forcing the bird to flee the nest. In total, between five and eight birds are removed from all nests. Although in theory a sustainable harvest is possible by the careful removal of one clutch per nest, this does not seem to be practised.

The trapped birds are transported by rail with other live birds and animals and also, reportedly, with plants, in particular, orchids. While very little is known about the trade routes from peninsular India, the north-east stock is normally taken to either Mir Shikar Toli in Patna (and thence to Uttar Pradesh or Delhi), or Katta Toli in Ranchi (to supply the Bombay market). The fledglings taken in the north-east appear to be raised by tribal people over a period of some months before being sold.

### TRADE

Following the export ban, illegal trade continued: for example, 23 Hill Mynas were seized in October 1984 in Delhi from a Syrian national who was suspected of trying to smuggle the birds out of the country. This is just one of the many attempts to supply the trade using covert means.

*Gracula r. indica* is reportedly a better mimic and fetches higher prices than the southern subspecies. This may be because the birds are taken at a younger age and are more receptive to learning (Ali, 1963). The bird, which can be obtained for as little as Rs.30 (US\$1) direct from the poacher, can sell for Rs.15-Rs.300 in Guwahati, Calcutta and the Jama Masjid Market in Delhi; this increases to between Rs.3000 and Rs.6000 on the international market. In the USA, a specimen sells for between US\$170 and US\$225 and a male specimen with a recorded breeding success may fetch US\$325 (Weissgold, 1993). The profit margins for the species are relatively high compared with



Hill Myna *Gracula religiosa*

## SHORT COMMUNICATION

other Indian birds. In 1979, tribesmen reportedly received Rs.15-Rs.22 a bird and dealers Rs.39-Rs.42 (Sane, 1983). Today, dealers pay Rs.225-Rs.300 for a specimen which they then sell for between Rs.300 and Rs.450 (Bhargava and Menon, in prep.).

In 1979, it was estimated that 15 000-25 000 Mynas were collected for the trade from the north-east alone, of which 3000-5000 were adults or semi-adults (Sane, 1983). This means that between 10 000 and 22 000 Mynas were collected as fledglings. The approximate breakdown of this collection is: 2500 Lower Shillong/Kamrup; 6000 Garo Hills; 2000 Naga Hills and Mizoram; 8000 Nepal, West Bengal and Bangladesh; 4500 Upper Assam and Manipur (Sane, 1983). It is likely that at least as many are trapped in the rest of the continent with the use of lime sticks and nets.

While no data exist for the total number of Hill Mynas involved in either the domestic or the international trade, the evidence suggests that there is a substantial trade which warrants further investigation.

### ACKNOWLEDGEMENTS

This paper would not have been possible but for the help of several people in the north-east of India. Asim Chatterjee, who guided and accompanied me on the trip to the Garo villages requires more than a special mention. I would also like to acknowledge the assistance of Dr P.C. Bhattacharjee who helped in more ways than one.

### REFERENCES

- Ali, S. (1963). On the alleged inferiority of the Southern Grackle [*Gracula religiosa indica* (Cuvier)]. *Journal of Bombay Natural History Society* 60:455-456.
- Ali, S. (1979). *The Book of Indian Birds*. Bombay Natural History Society, Bombay.
- Ali, S. and Ripley, S.D. (1983). *Handbook of the Birds of India & Pakistan* Compact edition. Oxford University Press, New Delhi.
- Bertram, B. (1967). Hill Myna *Gracula religiosa* Linnaeus breeding in artificial nests in Garo Hills, Assam. *Journal of the Bombay Natural History Society* 64:369-370.
- Bhargava, R. and Menon, V. (in prep.). The bird trade in India: current perspectives.
- Bertram, B. (1969). Hill Mynahs [sic.] and the trade in them from India. *Avicultural Magazine*. 75:253-255.
- Sane, S. (1983). *Some Aspects of the Wildlife/Pet Trade in India*. Bombay Natural History Society, Bombay.
- Weissgold, B.J. (1993). United States Exotic Bird Price List; Species Price Range. TRAFFIC USA.

---

Vivek Menon, TRAFFIC India

# TRAFFIC NETWORK

## TRAFFIC International

219 Huntingdon Road, Cambridge, CB3 0DL, UK.  
Tel: (44) 223 277427 Fax: (44) 223 277237  
E-mail: traffic@wcmc.org.uk

## TRAFFIC Europe

### Regional Office

Chaussée de Waterloo 608, 1060 Brussels, Belgium.  
Tel: (32) 2 3470111 Fax: (32) 2 3440511

151 Boulevard de la Reine,  
78000 Versailles, France.  
Tel: (33) 1 39 24 24 24 Fax: (33) 1 39 53 04 46

Hedderich str. 110,  
60591 Frankfurt (M) 70, Germany.  
Tel: (49) 69 6050030 Fax: (49) 69 617221

Via Salaria 290, 00199 Rome, Italy.  
Tel: (39) 6 8411712/8411348 Fax: (39) 6 8413137

Postbus 7, 3700 AA Zeist, Netherlands.  
Tel: (31) 3404 37333 Fax: (31) 3404 12064

## TRAFFIC India

172-B Lodi Estate, New Delhi 110003, India.  
Tel: (91) 11 4611258/4627582 Fax: (91) 11 4622727

## TRAFFIC Japan

7th Fl. Nihonseimei Akabanebashi Bldg., 3-1-14, Shiba,  
Minato-ku, 105, Tokyo, Japan.  
Tel: (81) 33 7691716 Fax: (81) 33 7691304  
Tlx: 2428231 wwff jpn j

## TRAFFIC Oceania

PO Box R594, Royal Exchange, Sydney, NSW 2000,  
Australia.  
Tel: (61) 2 2478133 Fax: (61) 2 2474579  
Tlx: 73303 lvsta aa/75374 bftb aa  
E-mail: traffico@peg.apc.org

## TRAFFIC South America

Carlos Roxlo 1496/301, Montevideo, Uruguay.  
Tel: (598) 2 49 33 84 Fax: (598) 2 49 33 84

## TRAFFIC Southeast Asia

Locked Bag No. 911, Jln. Sultan PO,  
46990 Petaling Jaya, Selangor, Malaysia.  
Tel: (60) 3 7913159 Fax: (60) 3 7175405

## TRAFFIC Taipei

PO Box 7-476,  
Taipei, Taiwan.  
Tel: (886) 2 362 9787 Fax: (886) 2 362 9799

## TRAFFIC USA

1250 24th Street, NW, Washington, DC 20037, USA.  
Tel: (1) 202 293 4800 Fax: (1) 202 775 8287  
Tlx: 23 64505 panda

## TRAFFIC East/Southern Africa

### Regional Office

c/o The Chief Game Warden,  
Department of National Parks and Wildlife,  
PO Box 30131, Lilongwe 3, Malawi.  
Tel: (265) 743645 Fax: (265) 743648

c/o Endangered Wildlife Trust, Private Bag XII,  
Parkview 2122, South Africa.

Tel: (27) 11 486 1102 Fax: (27) 11 486 1506

c/o PAWM, Department of Wildlife, PO Box 63150,  
Dar es Salaam, Tanzania.

Tel: (255) 51 25593 Fax: (255) 51 29355

TRAFFIC is a conservation programme of WWF - the World Wide Fund for Nature and IUCN - The World Conservation Union. 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.

TRAFFIC's special mission is to help ensure that wildlife trade is sustainable and in accordance with domestic and international laws and agreements, through the investigation, monitoring and reporting of such trade, particularly that which is detrimental to the survival of flora and fauna and that which is illegal. TRAFFIC's reports and advice shall provide a technical basis for the establishment of effective conservation policies and programmes for wildlife in trade.

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



**IUCN**  
The World Conservation Union