

IUCN/SSC
WILD CATTLE SPECIALIST
GROUP
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Newsletter

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INTRODUCTION

This is the first issue of the IUCN/SSC Wild Cattle Specialist Group Newsletter and it is intended to provide a forum to discuss the Group's activities; facilitate the exchange of information among its members and publish news and articles concerning the wild cattle in an effort to enhance their conservation status throughout their range. This issue contains inter alia, a summary on the International Workshop on the Kouprey Conservation held on 15 and 16 January 1988 in Hanoi, S.R. Vietnam. The Kouprey was unknown to science until it was described in 1937 from a specimen sent to the Vincennes Zoo near Paris. The Kouprey conservation programme has brought together the four countries concerned (Vietnam, Laos, Kampuchea and Thailand) to put aside their differences and set aside reserves crossing their regional boundaries in order to save the species before it is too late. The Kouprey is one of the last large mammals to be described. One of the concerns of the Wild Cattle Specialist Group is to see that the Kouprey is given all the assistance to enhance its survival prospects in its natural habitat. The level of co-operation given at the Hanoi Meeting in January was impressive and thus underlines the commitment of both the national and international organizations to save the species from becoming extinct.

Paradoxically, the success of the wild cattle has also been a cause of the main threat to their survival. Any habitat that is good enough for wild cattle can support domestic cattle as well. The danger to the wild cattle comes in the form of diseases that domestic cattle might carry into wild habitats. Some of these diseases can wipe out wild populations. This is particularly serious in the case of the Kouprey, given its low population size. It is therefore important to ensure that in any captive breeding programme concerning the Kouprey that contact with domestic cattle be avoided at best or kept to a low minimum. An immune barrier around the captive population of kouprey can be established if the domestic cattle near the kouprey are vaccinated against endemic diseases.

We look forward to receiving news, views and criticisms on any matters concerning the Wild Cattle. Please send in news and comments for subsequent issues.

Vo Quy and Charles Santiapillai
Editors

INTERNATIONAL WORKSHOP ON KOUFREY

The International Workshop on the Kouprey Conservation was held in the University of Hanoi, S.R. Vietnam on 15-16 Jan. 1988. Chaired by Prof. Vo Quy, Dean of Biology at the University of Hanoi, it brought together scientists and resource managers from Vietnam, Kampuchea, Laos, Thailand, Malaysia, Sri Lanka, USA and the United Kingdom. Members of the Zoo community from USA and members of the International Union for Conservation of Nature and Natural Resources (IUCN) and the World Wide Fund for Nature (WWF) also attended the workshop in an effort to draw up a preliminary Action Plan for Kouprey Conservation. The Action Plan will be published by the WWF and IUCN later this year.

The Kouprey (Bos sauveli) is known as the Forest Ox or the Grey Ox of Indochina. Its current distribution is centred on the northern plains of Kampuchea but individuals are known to range into the Dongrak mountains of eastern Thailand, and also through the southernmost provinces of Laos and the western edge of Vietnam along the Kampuchean border. The Kouprey lives in small herds composed of females and young and inhabits open dry dipterocarp forests and savannah grasslands. Its survival depends on the availability of grazing areas, dense forest for cover, perennial supply of water and a lack of contact with man, the hunter.

The Kouprey has always been regarded as rare. It is listed as an Endangered species by the IUCN. Today, its numbers in the wild are estimated to be between 100 and 300 and none exist in captivity. In Vietnam, it is estimated that only about 27 kouprey occur in the wild. While in Laos, perhaps between 40 and 100 may occur. In Kampuchea, a most optimistic estimate suggests less than 200 animals. A few are known to cross the Dongrak mountains into eastern Thailand.

Conservation measures to date:

The first conservation measure that was taken in Kampuchea was that ordered by Prince Sihanouk in 1960 when he declared the Kouprey the national animal of Kampuchea, provided legal status and set aside nature reserves to ensure its survival. In Vietnam the kouprey was listed as a protected species in 1985 and two small reserves exist along the border with Kampuchea, Mom Rai-Ngok Vin-Sathay and Yok Don-Easup where kouprey is known to occur. In Laos, the kouprey is now the only protected animal. However, there still are no protected areas in Laos but three areas are currently proposed for kouprey conservation. Three protected areas along the Dongrak mountains in Thailand have been set aside in order to protect the kouprey that may cross into Thailand from Kampuchea.

In situ versus ex situ conservation:

The Kouprey conservation programme is two pronged: on the one hand, its first goal is to save the species in the wild. The second goal is to determine if the animal can be used to benefit livestock industry. As the numbers of kouprey in the wild are small, the possibility of using ex situ conservation techniques must also be explored. The kouprey can be a useful domestic animal of the future and hybrids with domestic cattle might benefit from fast growth (hybrid vigour). There is also some talk of the kouprey being resistant to rinderpest. If this is proven, the animal would have enormous benefit to man.

The objectives of the captive breeding programme are:-

1. to ensure the survival of the species by acting as a reservoir of last resort.
2. to generate sufficient offspring so that it is possible to supplement the wild stock with animals bred in captivity.

The meeting discussed the availability of modern technology that can assist in artificial propagation of kouprey. They are: (1) Embryo transfer, (2) Embryo Cryopreservation, (3) Semen collection, (4) Semen Cryopreservation, (5) Artificial insemination and (6) Micromanipulation or Embryo Splitting.

CONCLUSIONS OF THE KOUPREY WORKSHOP

1. The delegates agreed that the conservation of kouprey (Bos sauveli) is one of the region's highest conservation priorities and a matter of the gravest urgency.
2. All parties agreed that each nation where the kouprey now exists is sovereign and holds absolute rights over the species in that country.
3. All parties agreed that the primary responsibility for saving this species rests with the people and authorities in each country where the kouprey exists.
4. All parties agreed that external agencies or individuals who agree to participate in the programme either by contributing funds or expertise do so recognising the implications of points 2 and 3 above.
5. Convincing evidence has been presented that small numbers of kouprey still survive throughout almost the entire former known range of the kouprey and are still found in Vietnam, Laos and Kampuchea. Kouprey may still sometimes move seasonally into the Dongrak Mountains of Thailand.

6. Kouprey are mostly distributed in the border areas between Kampuchea, Laos and Vietnam. There are indications that kouprey freely cross these international frontiers. This means that the populations are a shared resource and that in situ conservation efforts will only be successful if the respective countries co-ordinate their efforts to protect the species.

For this reason, Vietnam, Laos and Kampuchea have signed agreements for such cooperation within the context of the special cooperation of cultural and economic development of the Indochinese countries.

7. The following goals have been agreed for the programme of cooperation:-

The first goal is to save the kouprey in the wild.

The second goal is to determine whether the kouprey can be used to benefit the cattle livestock industry.

Following from these long-term goals are a number of short term objectives.

First, to secure and protect suitable areas of kouprey habitat as reserves in each country.

Second, to build up a strong, effective local team in each of the countries concerned, for managing the kouprey.

Third, to establish a captive population of kouprey as a means of ensuring the protection of the gene pool, a means of accelerating the recovery of wild populations (through a programme of reintroduction) and as a means of undertaking trials in kouprey domestication and hybridization.

8. On the basis of these goals and objectives, Vietnam, Laos and Kampuchea each agree to a) offer the highest possible category of legal protection to the kouprey b) establish a system of kouprey reserves and c) coordinate their selection of reserves as far as possible to establish transfrontier reserves.

9. Vietnam has agreed to offer training and assistance to Laos and Kampuchea as may be needed.

10. The Thai delegation has agreed to manage a series of kouprey reserves adjacent to the Kampuchean border and will inform the programme coordinators, through non-governmental channels, of any movements of Kouprey across this border.

11. Vietnam, Laos and Kampuchea have agreed to seek and accept assistance from the international zoo community in the establishment of a captive kouprey population. Such assistance is to be in the form of training local technicians in the latest techniques for keeping and handling captive wild cattle, and the provision of equipment and assistance (if applicable) in new techniques of accelerating captive breeding rates. The three countries agree in return to allow the export of sufficient genetic stock to permit the establishment of a secure global captive population of kouprey. This may be in the form of 25% of embryos collected from representative founder donors with the aim of transferring at least 100 viable embryos. Alternatively, if embryo transfer is unsuccessful, captive-born kouprey will be made available for export.

The export of 25% of sperm collected from founder bulls or their offspring for hybrid cattle studies will also be allowed.

Such exports will be controlled by the following conditions:-

a) First generation kouprey resulting from embryo transplants would remain the property of the country of origin but would be regarded as being on long-term breeding loan to allow the establishment of a secure global captive population.

b) Second generation offspring or hybrids will remain the property of the country in which the births occur, but on the understanding that zoos holding kouprey will continue to make such animals available without cost if these are needed for the reintroduction programme into the wild habitat.

12. Vietnam, Laos and Kampuchea will seek and accept assistance from IUCN and WWF in training of animal capture teams and will take every precaution to avoid unnecessary risks to the life of kouprey. Only skilled and competent technicians should be allowed to engage in such operations. The countries agreed to undertake capture operations only in compliance with guidelines outlined in the Kouprey Action Plan jointly developed by the participating parties.

13. Each country agreed to continue field surveys to gather the best possible data on the current distribution and status of kouprey in their respective territories and make the findings of such surveys freely available to the other participating parties.

14. Each country agreed to promote suitable public awareness materials to the local public and particularly to villagers living within the range of the kouprey.

15. It was agreed to form two international committees - one based in Indochina to coordinate local regional activities, one based in Gland, Switzerland between WWF and IUCN and other participating parties to act as a focal point for the coordination of international aspects.

16. The four "Kouprey countries" declared their acceptance of their respective responsibilities to take actions necessary to save the kouprey.

17. WWF and IUCN pledged their continuing willingness to provide assistance, advice and to seek the necessary financial support for this important programme".

SOURCE: THE KOUFREY: AN ACTION PLAN FOR ITS CONSERVATION
edited by John R. MacKinnon and Simon N. Stuart. 1988.

FIGHTING FOR THE FOREST OX

Ms Elizabeth Kempf who is an American journalist and at present the Editor of WWF-News has travelled extensively in Vietnam during the past few years. Recently she wrote an article for the New Scientist (No: 1619: 30 June 1988) from which the following extract is taken.

The kouprey or grey "forest ox" was recently observed in Vietnam near the Laotian border, by a team led by Dr Le Vu Khoi of the University of Hanoi. This sighting has allayed the fears that the animal might be extinct in Vietnam after 30 years of war and devastation. Beginning in 1985, researchers surveys some 30 localities in Vietnam's central highlands and, distributed thousands of questionnaires printed in the local languages. They also interviewed old people knowledgeable of the area and thus collected data concerning the distribution and number of kouprey in the wild. Biologists working in Indochina estimate the entire world population at between 100 and 300 animals. In January 1988, the Government of Vietnam hosted the first International Workshop on the Kouprey Conservation Programme where Dr Le Vu Khoi made an official announcement of his recent sighting of the kouprey. The Workshop drew up a "kouprey action plan" to be published later by WWG and IUCN. The first objective is to save the kouprey in the wild through the establishment of reserves spanning national borders. Indochinese scientists also hope to establish a captive population of 20 animals. The participants pointed out that the kouprey was a "shared resource" but each nation holds absolute rights over the species in its own country. Charles Wharton, an American scientist who studied the kouprey in the early 1950s suggested that the species may be resistant to rinderpest, as one population of kouprey survived an epidemic which killed many domestic cattle in its range.

WHO IS WHO AMONG WILD CATTLE

Wild cattle are bovids that belong to the tribe Bovini. There are twelve species in four genera according to Dr David Macdonald (The Encyclopaedia of Mammals Vol. 1). The cattle tribe evolved from the Boselaphini tribe. The original wild ancestor of our cattle was the Auroch (Bos primigenius) that was once common in Europe and whose range extended from Europe through Asia as far as China. The tribe Bovini achieved great diversity in the Pliocene when they inhabited the warm plains of Eurasia, about 5-3 million years ago. Some forms like the Yak and the Bison evolved to become very cold resistant and adapted to live at high altitudes. Only the Bison however managed to move from Eurasia into North America via Siberia and Alaska and extended its range as far south as El Salvador.

The twelve species of wild cattle are:-

1. Cattle Bos primigenius. By convention, present day cattle are given the same scientific name as that of their ancestor, the aurochs or urus which died out in 1627.
2. Wild Water Buffalo Bubalus bubalis. Very widely distributed in domesticated or feral form in Asia, South America, Europe, North Africa and Australia. Truly wild populations occur in Assam (India), Nepal and Bhutan.
3. Tamaraw Bubalus mindorensis is related to the water buffalo and is endemic to the Philippine island of Mindoro. It is virtually restricted to three small areas (Mount Iglet/Mount Baco, Mount Calavita, and Seblayon) in Mindoro Occidental. It has sometimes been known as Anoa mindorensis, but it is in fact more closely related to water buffalo (Bubalus bubalis) than to the anoa.
4. The Lowland Anoa (Bubalus depressicornis) is a small bovid related to the water buffalo. It is native to the dense, mature forests of Sulawesi in eastern Indonesia.
5. Mountain Anoa (Bubalus quarlesi) like the lowland anoa is endemic to Sulawesi. It is found in mountain forests up to 2000m. The animals concentrate near hot water springs or sulphur springs where they obtain their mineral requirements.
6. Banteng Bos javanicus occurs in the wild in Burma, Thailand, Laos, Kampuchea, Vietnam and Indonesia (Java and Kalimantan). Only a few thousand survive and most populations are endangered because of their habitats being encroached upon by man.

7. Gaur Bos gaurus occurs from Peninsular India north as far as Nepal and Bhutan, east through Assam, Burma, Thailand, Kampuchea, Laos, Vietnam and south to Peninsular Malaysia. Historically, the largest concentrations have co-existed with farmers in areas of shifting cultivation.

8. Kouprey Bos sauveli or the forest ox is found in Indochina and is endangered. The world population is estimated to be between 100 and 200 animals.

9. Yak or the Grunting Ox Bos grunniens is a grazing animal accustomed to living in harsh, cold environments. Most Yaks are found in the mountains and plateaus of Tibet and Western China, however they occur from northern Afganistan, Pakistan, India and Bhutan to Mongolia and the Soviet Union. The wild yak lives in desolate mountain areas at altitudes of 4000-6000m. Its habitat is alpine tundra.

10. African buffalo Synceros caffer. Generally considered as two subspecies: the Cape Buffalo (S.c.caffer) and the Forest Buffalo (S.c.nanus). The former lives in savannah and woodlands, the latter in forests near the Equator.

11. American Bison Bison bison. Widely considered to be two subspecies the Plains bison (B.b.bison) and the rather larger and darker Wood bison (B.b.athabasca) which lives further north. Once widely distributed, today it is found mainly in parks and refuges.

12. European Bison Bison bonasus. Became extinct in the wild in 1919 but was reestablished in Bialowieza Primeval Forest and later in the Caucasus and elsewhere in the USSR.

LIFE EXPECTANCY OF BANTENG AND BUFFALO
IN INDONESIA

In the 250 km² Baluran National Park in East Java, Indonesia, Banteng (Bos javanicus) and buffalo (Bubalus bubalis) occur sympatrically. Using a pick up collection of skulls of the two species of wild cattle, Kenneth Ashby (University of Durham, UK) and Charles Santiapillai (WWF Indonesia Programme) were able to determine the average life expectancy of these bovids. It was assumed that the highly seasonal climate in Baluran in fact imposed an annual pattern of layering on the dental cementum. Precise determination of age at death was possible from skulls of 14 buffalo and 5 banteng. Conclusions include that in Baluran both banteng and buffalo can be longer lived, the maximum life of the banteng was 19 years, while that of the buffalo was 16 years. Life expectancy and maximum life span are considerably higher than in the case of the buffalo in the Ruhuna National Park in Sri Lanka. This difference is tentatively correlated with the rate of tooth wear of grazers being much higher in Ruhuna National Park, Sri Lanka than at Baluran. Attention is drawn to the crucial importance of spring-fed water holes distributed along the eastern side of the reserve just inland from coastal mangrove swamps in conjunction with the savannahs and open forest used as feeding areas. The human settlement to the south is not a threat providing there is no encroachment. That to the north at Karangteko, offers competition over grazing land, but its main significance lies in its possible role in introducing virulent diseases of bovids, which could be particularly serious as a threat to the banteng population which is small in comparison to that of the buffalo. Present management is based on the assumption that there is a large measure of competition between the two species, thus making it essential to remove at least a large proportion of the buffalo for use in farms as draught animals. This assumption, while justifiable as a fail-safe measure in a situation of ignorance, may be incorrect. In fact a large measure of niche separation may result from differential use of habitat and differing food preferences. It is suggested that studies of the habitat useage, feeding patterns and survival rates of the banteng and buffalo are essential for effective long-term management of the park.

Source: Ashby, K.R. & Santiapillai, C. 1987. The Life Expectancy of Banteng (Bos javanicus) and Buffalo (Bubalus bubalis) in Baluran National Park, East Java, Indonesia. BIOTROP Spec. Publ. 30, 151-160.