

REPORT OF A WILD CATTLE SURVEY IN BU GIA MAP NATIONAL PARK, VIETNAM

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1. METHOD

The Wild Cattle Conservation Project (WCCP) embarked this year on a country-wide survey of the last remaining populations of the relict wild cattle in Vietnam. Meanwhile, biological samples of wild cattle are collected whenever possible, until most remote locations, to conduct genetic analysis on these precious animals.

Between 30.02 and 03.03.2005, a WCCP team completed a field survey in Bu Gia Map National Park (BGM NP), Binh Phuoc Province, South-West of Vietnam.

The team of seven wildlife specialists consisted of BGM NP staff as well as scientists of NIAH, VNUH, CIRAD and IGF. The survey was focused on large mammals with special emphasis on wild cattle which is the purpose of the WCCP. The team spent six days on foot exploring BGM NP from North to South. The survey took place during the dry season 2005 while rivers allow easy crossing and while deciduous forests permit observations although dry leaves on the ground make discrete walking difficult.

The survey method consisted of recce (reconnaissance) transects to collect every possible signs of large mammals, both direct (sightings, sounds) and indirect (footprints, dungs, scratches, *frottis*, horn marks on trees, lair, saltlicks, browsed plants, wild boar "nests", etc.). Given the low occurrence of direct signs, emphasis was put on (i) footprints measurements for biometric data analysis & (ii) dungs collection for DNA extraction and genetic analysis. Also, ratios were drew from the signs collected per transect duration and distance (catch per unit effort), allowing time and sites comparisons.

2. RESULTS

2.1. THE ASIAN BUFFALO (*BUBALUS BUBALIS* SP) RECORDED IN BGM NP

- **Records of wild Asian buffalo in BGM NP**

Hoof prints and dungs of wild Asian buffaloes were noticed in four different locations, including the fresh signs of a small herd.

Buffalo footprints have unambiguous typical features which cannot be confused with other wild cattle, e.g.:

- (i) the width is equal or larger than the length, which is the opposite for all species of the *Bos* genus;
- (ii) the space between the two hooves of a given foot is always open frontward in buffalo while it is open backwards in the *Bos* genus, except while running;
- (iii) the shape of the hoof is often –not always- curled as a comma, which is exceptional with the *Bos* genus.

However, the footprints of wild, feral and domestic buffaloes cannot be distinguished so far.

- **The wild Asian buffalo is not extinct in Vietnam**

The wild Asian buffalo has been recently re-discovered in Indochina in Cambodia (WCS, 2001).

In Vietnam, the species is considered as extinct for 30 years now (???????)

Even though the wild buffalo was known by local hunters around BGM, it was not recognized as existing in Binh Phuoc Province according to the Red Data Book of Vietnam (MOSTE, 2000).

The Asian Buffalo is considered as endangered by the IUCN Red List of Threatened Species and only existing in Buthan, India, Nepal and Thailand (IUCN, 2004). In Indochina, the existence of the genuine Asian Buffalo is a matter of recurrent debate. The wild Indochinese buffalo is well known for decades (i.e. Wharton, 1957, Pfeffer, 1967) and was well known recently discovered in Cambodia, in north-east Mondulkiri south of the Srepok river just next to the Vietnam border (The Pnom Pen Post, 2001).

- **Genuinely wild or feral?**

Whether the Asian wild buffalo in Bu Gia Map is feral (formerly domesticated, then returned to the wild) or genuinely wild is questioned and remains the matter of ongoing inquiries. Biological samples of wild bovids have been collected on 12 distinct occasions during this mission. The non-invasive technique of faecal sampling will allow to extract DNA and to definitely identify the different species. The genetic analysis will be performed by the NIAH in Hanoi.

Whatever will be the output of the laboratory investigations, this buffalo population is of high conservation value. The Bu Gia Map buffalo is behaving as a wild animal:

- it is sympatric with the gaur (*Bos gaurus*), not only sharing the same habitat but also mixing together at times, as shown by contemporary footprints and dungs
- according to indirect signs, the BGM buffalo also cohabits with a number of other wild mammals including Asian elephant (), sambar (), red muntjac (), wild pig (), Asiatic black bear (), leopard (), etc.

Rapid investigations were undertaken to assess the level of anthropic influence in the area:

- Within the Park:
 - . there are no villages nor houses inside the Park; there is no livestock nor agricultural fields in the Park; as a consequence, wild buffaloes do not enter into contact with domestic buffaloes;
 - . a dust road is currently under construction on the Western limit of the Park along the border; the workers are settled in temporary camps along the road, they remain on the road and do not appear to enter into the jungle;
 - . human presence is widespread inside the Park, either official (Border patrols, Park staff) or illegal (loggers, poachers, non-timber forest products collectors such as resin-tapers, etc.).
- Outside the Park:
 - . the Western & Northern frontier of the Park is made of the international border with Cambodia: the Cambodian side is a commercial logging concession with a conservation strategy under implementation; large mammals are well known to occur there (WCS, ...; ?????);
 - . the Eastern & Northern limit of the Park is the provincial border: in the neighbouring Province, natural habitats seem to occur still, especially marshy grasslands which are worth exploring;
 - . the Southern limit of the Park is really the one under human pressure; it lies right on the pioneer front with a perimeter road separating the cashew nut plantations from the Park;
 - . domestic buffaloes have been located 12 km away, as the crow flies, from the closest footprint of wild buffaloes;
- Conclusion: The Park is quite well preserved from human interference. The inside, as well as the Western, Northern and Eastern borders do not contain any human settlement or livestock, with the exception of the temporary camps for the workers building the road. The human pressure comes from the South where there is livestock including domestic buffaloes, nevertheless without crossing the perimeter dust track nor entering the Park.

2.2. THE WILD CATTLE COMMUNITY IN BGM NP

Bu Gia Map NP appears to be a major hotspot for the Vietnamese wild cattle diversity since at least two species are confirmed, the Asian buffalo and the gaur.

- **The gaur**

Footprints
Dungs

Sightings
Trophies
Hunters

- **Other wild bovids**

The question remains of the confirmed presence in BGM NP of two other wild bovids:

(i) the banteng (*Bos javanicus*):

- it is well known by local people in BGM NP
- one specimen has been shot next to BGM NP in 2002 (, pers. comm.)

(ii) the kouprey (*Bos sauveli*):

- the kouprey is considered by the Red Data Book of Vietnam to have occurred in BGM NP (MOSTE, 2000)
- BGM NP is considered as within the kouprey mid 1905's range, and a post-1975 record of kouprey is mentioned there even (MacKinnon & Stuart, 1989)
- Pfeffer, 1967
- Wharton, 1957

- **Comparisons of wild & domestic cattle footprints**

is a rather complex matter

- wild cattle: banteng
- domestic cattle:
 - *Bos taurus* (humpless cattle):
 - *Bos indicus* (zebu cattle):
 - Hybrids *B. taurus* x *B. indicus*:

A number of footprints have been measured in and around BGM NP.

Independent of sex and age!

2.3. RECORDS OF OTHER LARGE MAMMALS

Direct and indirect signs of other major mammal species have been observed during the mission.

- **Pachyderm**

Asian elephant (sounds, footprints & dungs)

- **Carnivores**

- leopard (footprints)
- Asiatic black bear (claws scratches on trees)
-

dhole (footprints)

Tiger footprint in January 2005

- **Cervids**

- sambar (footprints & droppings)
- red muntjac (footprints)
- lesser mouse deer (sightings)

The presence is also questioned of the Eld's deer (*Cervus eldi*), one of the rarest Cervids on earth.

- **Primates**

- yellow-cheeked gibbon (sightings & sounds)
- black douc langur (sightings & sounds)
- long-tailed macaque (sightings & sounds)
- pig-tailed macaque (sightings & sounds)

- **Others**

- common palm civet (sightings & dungs)
- East Asian porcupine (sightings & dungs)
- wild boar (footprints & faeces)
- binturong (sightings)

2.4. RECORD OF A KEY SITE IN BGM NP

During the same mission, an amazing site has also been discovered. While tracking the fresh foot prints of a buffalo trail in a forested steep slope, the team came across a natural spring with muddy surroundings for wallowing. Clear fresh signs were identified of as many species as elephant, black bear, buffalo, gaur, sambar, muntjac and wild boar, altogether at the same spot! This is a major finding, not only for Vietnam but also for the whole Indochinese region. For obvious reasons, the precise location is not revealed by the Park staff. Further investigations are underway.

3. CONCLUSION

3.1. ASSETS

WCCP has already confirmed the presence of wild cattle in Bin Phuoc Province (WCCP, 2005):

gaur à Bu Dang et Nghia Trung 3 State Production Forests:
gaur et banteng à Tan Lap and Dong Phu .

3.2. THREATS

Direct threats

Poaching

Logging

2 years

Still nets for aquatic reptiles and some bird traps (Galinacea)

Indirect threats

Road

Border patrol

Resin tapping going on

Armee asset

Agriculture and animal husbandry under control due to a perimetral road

3.3. PROSPECTS

Low abundance but high diversity

Face the challenge of launching a new NP

Motivated and dedicated staff

So, the justification for the Vietnam Government to have gazetted the Bu Gia Map Natural Reserve as a National Park is now reinforced.

The authorities are conscious of the

Given the modest size of the park (26,000 ha), coordination with neighbouring areas appears crucial for the long-term conservation of mobile large mammals such as wild bovids, elephant etc.:

- (i) Eastwards in Vietnam: the adjacent natural habitats of the Dak Nong Province; natural grassland
- (ii) westwards in Cambodia:
 - the Samling logging concession in Southern Mondulhiri Province, Cambodia
 - Protected Areas, Cambodia

carnivores

4. ACKNOWLEDGMENTS

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