



Jire cracking oil-palm nuts using stones

With the exception of humans, chimpanzees are the only living primates to consistently and habitually use and make tools in the wild. Chimpanzees use tools to reach and access foods that would normally be inaccessible, to defend themselves, to communicate, to explore their environment, and for hygiene purposes. Researchers have recognized significant differences in behavioral and tool use patterns across communities in Africa, which are now considered cultural variants.

Chimpanzees at Bossou are well known for using a stone hammer and anvil to crack open oil palm (*Elaeis guineensis*) nuts – the most sophisticated form of tool use seen in the wild. They have also been observed using leaves for drinking water, sticks or stalks of vegetation to consume insects, honey or algae, and petioles of the oil-palm tree as pestles to extract the heart of the palm trunk.



Jeje scooping algae with a stick

### RULES FOR OBSERVING CHIMPANZEES

#### VISITORS MUST:

- Not enter the forest under any circumstances if they carry any transmittable disease (influenza, etc).
- Be accompanied by IREB guides at all times and always follow their instructions.
- Not use any flash photography.
- Request special permission if they wish to film in the forest.
- Not disturb the chimpanzees and the ongoing scientific research.
- Never approach the chimpanzees closer than 20m.
- Speak quietly.
- Not feed the chimpanzees, nor eat in the forest.
- Not stand upright when observing the chimpanzees - it is best to sit or crouch on the ground.
- Not stare the chimpanzees directly in the eye.
- Not leave clothes or possessions unattended.
- Not throw or leave behind any waste or garbage in the forest.



Veve and Jimato

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Web pages:  
<http://www.greenpassage.org>  
<http://www.phytoculture.co.jp/greenbelt-top-E.html>  
<http://www.pri.kyoto-u.ac.jp/chimp/index.html>

## CHIMPANZEES OF BOSSOU AND NIMBA



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### CHIMPANZEE ECOLOGY

The chimpanzee is one of the great ape, a group of primates that also includes gorillas and orang-utans. Great apes are the evolutionary neighbors of humans. Two species of chimpanzee are distinguished: the bonobo (or pygmy chimpanzee, *Pan paniscus*), and the common chimpanzee (*Pan troglodytes*), which is further divided into four sub-species. The distribution of the common chimpanzee extends across Equatorial Africa where it can be found in 21 countries. There are an estimated 187,000 individuals left in the wild.

The West African chimpanzee (*Pan troglodytes verus*) has already disappeared in four countries. Today, Guinea and Côte d'Ivoire are the countries in West Africa that harbour the most chimpanzees and have, therefore, an essential role to play in the conservation of this species. To prevent the extinction of chimpanzees and to preserve their habitat, it is necessary to have a comprehensive understanding of their behavior and ecology. At present, there are only 6 ongoing major long-term research sites dedicated to the study of wild chimpanzees in Africa - Bossou is one of them.



The Nimba mountains

Chimpanzees of the same community maintain tight social relationships using a complex repertoire of affiliative behaviors. During the day, they travel in sub-groups of varying sizes and are able to cover large distances in search of the best food sources.

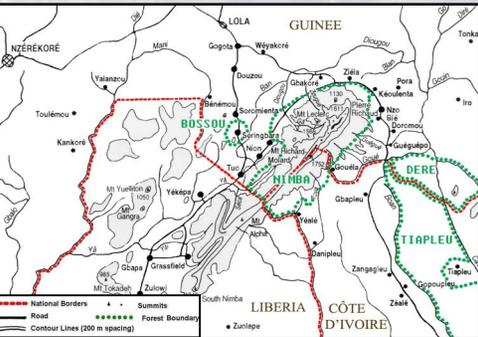
They are predominantly fruit eating, but also consume a variety of other foods. At Bossou, for example, they also feed on leaves, flowers, seeds, pith, bark, gum, sap, mushrooms, algae, insects, honey, bird eggs, and mammals.

At dusk, each adult builds a nest by bending and intertwining the branches of a tree. Infants become weaned between 4-6 years of age.

## CHIMPANZEES AND REGIONAL CONSERVATION

The village of Bossou, in the Prefecture of Lola, is 1050 km from Conakry and 6 km from the foot of the Nimba Mountains, near Guinea's southeastern border with Côte d'Ivoire and Liberia. Bossou is surrounded by small hills 70-150m high that are covered in primary and secondary forest. At the foot of these hills, cultivated or abandoned fields, and secondary, riverine and scrub forests form a patchy mosaic. The hills of Bossou constitute a core area of the Nimba Mountains, a UNESCO World Heritage site also listed as Biosphere Reserve (MAB/UNESCO Program).

In 2002, the Nimba Mountains were recognized as one of six top priority sites for chimpanzee conservation in West Africa (IUCN). This site extends across three national borders and comprises surrounding forest areas, including Bossou and Déré in Guinea and Tiapleu in Côte d'Ivoire.



Bossou-Nimba area

Bossou was founded by Manon people who have long played an essential role in protecting chimpanzees, since the chimpanzee is one of their common totem animals. Bossou and the surrounding villages provide a rare example of a site where wild chimpanzees and local people have been living side by side in relative harmony for many generations, sharing the resources of the same forest.

In spite of this long-term protection, the Bossou chimpanzees have increasingly become isolated from neighboring communities in the Nimba Mountains - thus creating a serious viability problem for the future of this community, given the current lack of gene flow.

## THE GREEN CORRIDOR PROJECT

Since 1997, researchers from KUPRI have been working in co-operation with IREB and local villagers, and with the support of Japanese Embassy and Guinean government, toward the creation of a "green passage". The aim is to plant trees along a 300m wide and 4km long stretch of savanna extending between Bossou and the Nimba Mountains in the hope of re-establishing a flow of migration between the Bossou chimpanzee community and the surrounding populations. There are four villages in the vicinity of the corridor: Bossou, Séringbara, Nion, and Thuo, all of whom are participating in this project.



Tree nursery



The first hexatube

The Green Corridor project is unique. Increasing the connectivity between fragmented forest blocks is an innovative approach to conserving genetic diversity and ensuring the survival of the sub-species together with other animals and plants. It provides a sustainable economical incentive to local communities to contribute directly to the protection of their environment. This project also promotes a better local understanding of conservation issues through a hands-on approach. In combination with an environmental education program carried out in schools, it has inspired young people in the locality to take conservation issues seriously and to organize their own initiatives.

I ideally, the Green Corridor is more than a simple reforestation program: it is a spiritual program for the local people, to be managed by the local people. Our role is to help the seeds of conservation awareness grow in the hearts of the local people, who are after all the logical guarantors of wildlife protection in the region.

We have adopted four approaches to promote tree growth in the Green Corridor:

- 1) Eradication of all grassland species while preserving tree species already present in the corridor.
- 2) Promotion of local associations of villagers to cultivate crops of choice in rows in the green corridor while planting young trees in between, harvesting and then weeding twice a year for one year. This has several advantages: a) it ensures that grassland species do not re-colonize b) it promotes natural fertilization of the soil c) it encourages the participation of villagers d) it alleviates agricultural pressures on the chimpanzees' habitat.
- 3) Planting of saplings, at a density of 400 young trees per hectare. Priority is usually given to savanna adapted species such as *Uapaca guineensis*, *Parkia bicolor*, and *Parinari excelsa*. Tree growth progressively increases shade cover, helping other less resilient tree or vine species, representing important chimpanzee foods, to grow in turn.
- 4) Maintenance of a firebreak surrounding the corridor three times a year, to incite natural regeneration of the forest within the corridor and to protect young saplings.

Although this project has made considerable progress, much remains to be done. We are carrying on our efforts with the continued collaboration of local women's, youth, and village associations, and local NGOs, whose contribution is invaluable for the success of this unique conservation initiative.



Satellite image of the Green Corridor  
Bossou (7°39' N and 8°30' W)

## KUPRI and IREB



The next generation



Assessing corridor trees

Scientists from the Kyoto University Primate Research Institute (KUPRI) focus on field research on chimpanzees at Bossou, Nimba and surrounding areas such as Diécké and Ziama. Yukimaru Sugiyama began the study of Bossou chimpanzees in 1976. He and his colleagues, an international team of students and researchers, have continued their long-term research ever since, in close collaboration with Guinean counterparts. KUPRI plays an important role in the training of Guinean students, in promoting environmental education, conservation activities, and sustainable developmental initiatives in the locality.

The Bossou Environmental Research Institute (IREB) was created in October 2001. IREB's major research interests are in Primatology, Climatology, Botany, Zoology, and Sociology. IREB, in collaboration with DNRST, has established a scientific cooperation with KUPRI since 2001.



KUPRI-IREB research station at Bossou

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