
<NOTE>**Use of Caves by Savanna
Chimpanzees (*Pan troglodytes
verus*) in the Tomboronkoto
Region of Southeastern Senegal**

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Indirect evidence has been found to indicate that chimpanzees in the Tomboronkoto region of southeastern Senegal use natural caves during

the late dry season (May-June) for resting and eating. The Tomboronkoto region is the site of a newly-initiated research project on the ecology and behavior of savanna chimpanzees. Chimpanzees are not yet habituated at this site. Tomboronkoto (12°72'N, 12°22'W) is approximately 48 km SE of the Assirik site in Parc National du Niokolo Koba in Senegal. This new study site is south of the Gambia River, while the Assirik area lies north of the river. At Tomboronkoto, chimpanzees are sympatric with Bedik, Bassari, Malinke, and Fulani peoples. Although many of the animals known to occur in the Niokolo Koba Park also occur in Tomboronkoto, densities of mammals outside the park are comparatively low. The most commonly sighted mammal in the region is the patas monkey. Baboons occur at significantly lower levels in Tomboronkoto compared to Niokolo Koba. Predators that occur within the national park, such as lions, leopards, and spotted hyaenas do not occur in Tomboronkoto.

When research was initiated at Tomboronkoto, local Malinke people reported that chimpanzees here used caves during the dry season, so measures were taken to survey one particular site regularly. The cave used by chimpanzees at Tomboronkoto is situated at the lip of a plateau: narrow-leaved savanna with isolated deciduous shrubs (1), (2), where it drops off into a ravine of gallery forest habitat (tropical semi-deciduous lowland forest). This particular cave is approximately 2.5 m long by 2 m deep and varies in height from less than a meter to just over a meter tall. During the peak of the dry season, chimpanzees used the cave at least twice during a one-month period. In both instances, chimpanzee feces were found within and/or at the edge of the cave and deposited in such a manner as to indicate that the individual was standing within or at the edge of the cave rather than within a tree or on the rock ledge above it. On May 5, 2001 chimpanzee feces were found within the cave. On May 29, 2001, both chimpanzee feces and chimpanzee feeding remains were found within the cave. Feces were found approximately 1 m inside the entrance to the cave, while feeding remains were found 0.5 m within the cave entrance and at the edge of the

cave entrance. The feeding remains consisted of typical piles of feeding remains of *Cola cordifolia*: seeds that had been spit-out and fruit husks. Similar piles were observed elsewhere in Tomboronkoto where chimpanzees fed. These remains were assumed to be chimpanzee feeding remains based on knuckle prints found at the site, the lack of evidence of baboons at the site, and the lack of data indicating that humans in the area ate *C. cordifolia* in a similar way. At least two discreet piles of feeding remains were found in the cave. The nearest fruiting *C. cordifolia* tree was approximately 20 m away from the cave, at the far edge of the junction between the gallery forest and plateau edge. Chimpanzees in other areas of the study area have been observed to break off branches containing multiple *C. cordifolia* fruits and carry them away to be eaten elsewhere. As of November 2001, no evidence has been found suggesting that chimpanzees have been using the cave since the beginning of the wet season (July). The cave continues to be monitored regularly.

One hypothesis regarding why chimpanzees use caves as a shelter at Tomboronkoto relates to the temperature differences recorded in the various habitats in the savanna environment here. Chimpanzees may be using caves as shelter to escape higher daytime temperatures characteristic of the surrounding habitats. Data on temperature in the various habitats have been collected at Tomboronkoto since April 2001, but have not yet been compiled. A remote temperature logger will be fixed within the cave in the near future to determine whether temperatures there differ significantly from the surrounding habitat.

Other instances of cave use by chimpanzees have also been reported. During this same study in April 2001, two research assistants observed an adult male chimpanzee hiding himself from their view in a small cave on a rocky hillside south of the main Tomboronkoto study site (P. Stirling, pers. com.). Nishida (3) reported that chimpanzees at Mahale, Tanzania used caves for feeding on minerals or other substances found on cave walls. Near Binda, Mali five chimpanzees were observed to exit a small cave (J. Moore, pers. com.). No evidence of

geophagy was present at this site. Similarly, there was no sign that the cave at Tomboronkoto was used for mineral feeding by chimpanzees or other animals, although other sites in stream banks were used by some animals for geophagy. As McGrew *et al.* (1) noted for Assirik chimpanzees in Senegal, temperature may be a significant variable affecting the behavior of chimpanzees in savanna habitats.

Acknowledgements

I thank the Republic of Senegal, the Direction des Parcs Nationaux, Departement des Eaux et Forets, Bill McGrew, Linda Marchant, Peter Stirling, Mark Cook, Michel Waller, Aaron Brownell, Tom LaDuke, Dondo Kante, Mboule Camara, and the people of Gidingoto and Djendji in Tomboronkoto for their assistance in the project and organizers and participants in the SAGA4 (Support for African and Asian Great Apes) 2001 meeting in Okayama, Japan for helpful discussion regarding Tomboronkoto chimpanzees.

References

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