



Christophe Boesch (1951–2024): Primatology Pioneer with a Long-Term Vision for Research and Conservation

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Christophe Boesch (1951–2024) © Markus Wächter

We are trying to fathom that Christophe Boesch, with a larger-than-life presence, died suddenly on January 14, 2024. His long-term vision and dedication to science and protection of wild chimpanzees (*Pan troglodytes*) have inspired research and conservation efforts around the globe.

Christophe dedicated his working life to understanding and protecting chimpanzee societies. After his Masters with the mountain gorillas (*Gorilla beringei beringei*) in Rwanda, he started a PhD with Hans Kummer in Zürich, which he received in 1984. During his PhD, Christophe heard about a population of chimpanzees that used stone hammers to crack nuts in Côte d'Ivoire and so traveled to Taï National Park (TNP). After weeks of searching, he heard the human-like sound of hammering echoing through the forest. He had found these astonishing chimpanzees. In 1979, Christophe set up a research camp in Taï, with his wonderful wife, Hedwige, their

two small children, Lukas and Léonore, and two dedicated field assistants, Gregoire Nohon and Honora Kapazahi. It took them 5 years of chasing black shadows through the dense forest before the chimpanzees accepted human presence and observations could begin. Christophe wrote several seminal papers on his remarkable nut-cracking findings (Boesch & Boesch, 1983), and his work on chimpanzee hunting behavior and meat sharing was hugely influential for research on cooperation (Boesch, 1994).

Being the first to use a comparative cross-population approach for chimpanzees, Christophe's studies opened up the possibility that chimpanzees are cultural beings (Whiten et al., 1999), with differences in behaviors between populations resulting from social learning. This is now well corroborated, not least through the Pan African Programme: The Cultured Chimpanzee (PanAf) project that Christophe established. With typical tenacity, Christophe's multinational teams collected data across more than 50 chimpanzee populations across tropical Africa (Kühl et al., 2019). Initially considered unfeasible, the approach was not only successful but also was adopted for other species.

Christophe's first nut-cracking findings led to the beginning of one of the longest running chimpanzee field sites and his founding of the Tai Chimpanzee Project in 1979. In 1997, he left the University of Basel, where he had been an assistant professor since 1994, to become a founding director at the Max Planck Institute for Evolutionary Anthropology (MPI EVA) in Leipzig, Germany, where he continued his extensive and daring research until his retirement in 2019. The Tai Chimpanzee Project became one of the most productive animal behavior research field sites in the world, resulting in more than 400 scientific publications, several books, numerous BBC documentaries, and a Disney movie (www.taichimps.org). Christophe also created the Ozouga chimpanzee field site in Gabon, where novel behaviors and tools continue to be recorded (www.ozouga.org). As the Director of the Department of Primatology at the MPI EVA, Christophe advanced comparative great ape research considerably by supporting field studies of bonobos, chimpanzees, and gorillas for more than 20 years and mentoring many African scientists.

Some of us first met Christophe at the start of our PhDs in the late 1990s, as he was taking on his new position as MPI director. Then, as ever, he was a fireball of energy and ideas. Most impressive to us, spending days with him and the chimpanzees in the forest, was his intimate knowledge of each chimpanzee, their personalities, their offspring, friends, lovers, and enemies. He taught us his eye for detail, to focus not only on the action but on the chimpanzees observing the action. He taught us to walk beside and not behind the chimps, so that we see what they see, rather than trying to piece together what they might have seen afterwards. He pointed out the infants intently watching their mothers crack nuts with stone or wooden hammers and then pottering off to find a hammer close by to try hammering themselves. He pointed out how fertile females can feign indifference to the whirl of male battles around them, only to sneak away when the alpha male is momentarily distracted to mate with their chosen male. He noticed how males may walk kilometers to seek out an isolated monkey group, then work together to make a successful hunt. He observed adult males adopting orphans, carrying them, sharing food with them, and letting them share their nests at night.

Christophe's eye for detail built a picture of a gentler chimpanzee than was emerging from studies of the eastern chimpanzee (*Pan troglodytes schweinfurthii*). Ongoing studies continue to support this idea—that the western chimpanzees (*Pan*

trogloodytes verus) of TNP are particularly cooperative and supportive. Not only are food sharing and adoption common, but rates of lethal aggression, both within and between communities, are amongst the lowest in chimpanzees.

Christophe realized that chimpanzees and their communities were under serious and increasing threat. Whereas in 1979, he had traveled 100 km through primary rainforest to reach his research camp, 20 years later only 5 km of this forest was left. Gunshots became frequent, and chimpanzees started to forage in the cocoa fields planted in chimpanzee territories. Zoonotic diseases transferred between humans and chimpanzees (Köndgen et al., 2008), killing chimpanzees. At stake were not only the lives of individuals but of specific cultures that each community had evolved. Christophe feared, as his later research showed, that tearing apart chimpanzee communities also meant that cultures built over generations would disappear, torn apart by poaching, logging, or disease (Kühl et al., 2019).

Christophe's growing concern for the survival of wild chimpanzees in western Africa drove him to action. The luxury of doing science only was over as he dug into chimpanzee conservation. He and Hedwige founded the Wild Chimpanzee Foundation in 2000 (www.wildchimps.org). Christophe also was central to the establishment of the International Union for Conservation of Nature Species Survival Commission's A.P.E.S. database in 2005, the repository for ape field survey data, which is widely used to inform conservation bodies on the conservation status of apes. Christophe built grassroots teams of African nationals, supported chimpanzee range country scientists and conservation practitioners, and pushed for the development of more accurate ape survey methods. He surveyed vast tracts of the Upper Guinea tropical forest belt of West Africa to determine where the densest populations of chimpanzees remained and then lobbied for governmental protection in Côte d'Ivoire, Liberia, Guinea and Sierra Leone. During the next 20 years, his collaborations with national governments resulted in the establishment of several national parks across West Africa. He also advocated for evidence-based approaches in chimpanzee, ape, and biodiversity conservation. He has likely done more to ensure western chimpanzee survival into the future than anyone else. This work remained in full flow until his sudden death and will continue its impact through the impressive work of Wild Chimpanzee Foundation staff across West Africa.

Christophe leaves a thriving global network of former students, scientific, and conservation colleagues whose lives he has fundamentally changed for the better (Supplementary Information). His remarkable scientific career and powerful engagement in chimpanzee and forest protection leave a legacy which will be carried forth long into the future through both the long-term field sites he created and supported and the conservation activities of the Wild Chimpanzee Foundation. Our hearts are with Hedwige, Lukas, and Léonore, their partners, and his three grandchildren.

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