

2. I submit this Affidavit in support of Petitioner, The Nonhuman Rights Project, Inc.'s ("NhRP"), petition for a writ of habeas corpus on behalf of Kiko. I am a non-party to this proceeding.

3. I am currently an Honorary Professor in the Department of Zoology at the University of Leipzig, Germany where I have been a member of the faculty for 14 years. I am also the Director of the Max Planck Institute of Evolutionary Anthropology, and Founder and President of the Wild Chimpanzee Foundation. I have directed 16 diploma theses, 32 Ph.D. theses for both European and American students, and the post-doctoral work for 12 students. I have also regularly taught classes in Behavioural Ecology, Evolutionary Biology, and Population Biology in the 22 years that I have been teaching.

4. I have twice been awarded the Great Apes Fellowship of the Leakey Foundation in Pasadena, California. In addition, I received the Prix Cortaillod for talented Swiss scientists under 35 years old from the University of Neuchâtel, Switzerland, and was awarded the Medal "Officier de l'Ordre National" by the president of Côte d'Ivoire Alassane Ouattara in 2013.

5. I have been a member of the International Primate Protection League, the IUCN/SSC Primate Specialist Group, and the International Primatological Society since 1986. I am also currently a member of: (1) the Behavior and Brain Sciences Associates (since 1991); (2) the Pan Africa News Editorial Board (since 1997); (3) Steering Committee of the World Heritage Species Status Taskforce (since 2002); and (4) the IUCN/SSC/ Section of the Great Apes (since 2003). Additionally, I am the Co-chairman of the Scientific Committee of the Great Apes Survival project of the UNEP/UNESCO (since 2003). I previously served as a: (1) scientific board member of the Fyssen Foundation, Paris (1985-1989); (2) consultant to the World Wide Fund for Nature International (1987-1988); (3) Project Coordinator for the World Wide Fund for

Nature International in the Tai National Park, Ivory Coast (1988-1992); (4) executive council member of the Committee for the Care and Conservation of Chimpanzee (1988-1992); and (5) member of the Society for the study of Animal Behaviour (1993-1998).

6. During my career, I have served as a grant reviewer for the following institutions and foundations: NIH, National Science Foundation (USA), Swiss National Science Foundation, Leakey Foundation, National Geographic Society, Fulbright Foundation, and Wenner-Gren Foundation. Additionally, I have served as an ad hoc reviewer for a number of prominent peer-reviewed journals including: *Behavioural and Brain Sciences*, *Animal Behaviour*, *Nature*, *Behaviour*, *Ethology*, *Primates*, *International Journal of Primatology*, *American Journal of Primatology*, *Folia Primatologica*, *American Journal of Physical Anthropology*, *Current Anthropology*, *Behavioural Ecology*, *Proceedings of the National Academy Science, Series B*, *Quarterly Review of Biology*, *American Naturalists*, *Journal of Human Evolution*, *Proceedings of the Royal Society: Biological Sciences*, and *Journal of Evolutionary Biology*.

7. I have specialized in the study of wild chimpanzees for approximately 35 years. In 1976, I spent 8 months in the Tai National Park, Ivory Coast conducting a preliminary study on the behaviour of wild chimpanzees. I have completed on-going studies of these chimpanzees since 1979. My research on these chimpanzees has principally focused on ecology, social organisation, tool-use, hunting, cooperation, food-sharing, inter-community relationships and cognitive capacities. I also conducted a comparative field study on the chimpanzees of Gombe Stream National Park, Tanzania in 1990 and 1992 (April to July). In 1999 (August to October), I undertook a comparative field study on the chimpanzees of the Mahale Mountains National Park, Tanzania.

8. I have authored or co-authored 14 books on primate behavior, cognition, and evolution. Some of the most relevant include: (1) *Tool Use in Animals - Cognition and Ecology* (2013, Cambridge: Cambridge University Press); (2) *Wild Cultures: A Comparison between Chimpanzee and Human Cultures* (2012, Cambridge: Cambridge University Press); (3) *The Real Chimpanzee: Sex Strategies in the Forest* (2009, Cambridge: Cambridge University Press); (4) *Feeding Ecology in Apes and Other Primates* (2006, Cambridge: Cambridge University Press); (5) *Regional Action Plan for Chimpanzees and Gorillas in West Equatorial Africa* (2005, Washington: Conservation International); (6) *Behavioural Diversity in Chimpanzees and Bonobos* (2002, Cambridge: Cambridge University Press); and (7) *The Chimpanzees of the Tai Forest: Behavioural Ecology and Evolution* (2000, Oxford: Oxford University Press).

9. Since 1978, I have published at least 215 articles on the cognitive and learning capabilities, intelligence, communication, or language skills of apes and chimpanzees specifically. These articles are published in many of the world's most-cited peer-reviewed scientific journals, including: *Science*, *Nature*, *Current Biology*, *Journal of Comparative Psychology*, *Conservation Biology*, *American Journal of Primatology*, *International Journal of Primatology*, *Ecology and Evolution*, *Animal Behaviour*, *Journal of Human Evolution*, *American Journal of Physical Anthropology*, *Animal Cognition*, *Journal of General Virology*, *Folia Primatologica* (the official journal of the European Federation for Primatology), *Biological Conservation*, *Molecular Ecology*, and *Natural History*. I have also published articles in *The Oxford Handbook of Comparative Evolutionary Psychology*, *Proceedings of the National Academy of Sciences* and in *Proceedings of the Royal Society B*. Several articles of mine have also appeared in *BBC Wildlife Magazine*. Specific topics of these publications include: ecology and cognition of tool use in chimpanzees, chimpanzee culture, meat eating and hunting

specialization in chimpanzees, botanical skills in chimpanzees, long-term spatial memory in chimpanzees, chimpanzee conservation, female gregariousness in chimpanzees, social behavior and cognition in primates, habitat use and competitive exclusion among sympatric chimpanzee, gorilla and elephant, cultural differences between neighboring chimpanzee communities, reciprocity and trades in wild chimpanzees, locomotion and tool-use in chimpanzees, altruism in forest chimpanzees, adoption in chimpanzees, paternity and social rank in wild chimpanzees, feeding competition in chimpanzees, male aggression and sexual coercion in chimpanzees, reciprocation of grooming in chimpanzees, vocal, gestural and locomotor responses of wild chimpanzees to intruders, chimpanzee population size, social bonds in chimpanzees, sophisticated Euclidean maps in forest chimpanzees, integration of chimpanzee and human culture, wild ape health, infant mortality cycles in chimpanzees, sexual swelling cycles in chimpanzees, food choice in chimpanzees, paternity in wild chimpanzees, locomotor behavior in chimpanzees, cooperative hunting in chimpanzees, bisexually-bonded ranging in chimpanzees, group-specific calls in chimpanzees, effects of community size on wild chimpanzees social organization, decision-making in conflicts of wild chimpanzees, mortality rates in chimpanzees, female reproductive strategies, buttress drumming by wild chimpanzees, innovation in wild chimpanzees, predator-prey systems in chimpanzees, nut cracking in wild chimpanzees, handedness in chimpanzees, symbolic communication in wild chimpanzees, teaching in wild chimpanzees.

10. My Curriculum Vitae sets forth my educational background and experience and is annexed to my original Affidavit, filed herewith.

Basis for Opinions

11. The opinions I state in this Affidavit are based on my professional knowledge, education, training, and 37 years of research and field work with chimpanzees, as well as my knowledge of peer-reviewed literature about primatology published in the world's most respected journals, periodicals and books that are generally accepted as authoritative in the field of primatology, many of which were written by myself and colleagues with whom I have worked for many years and with whose research and field work I am personally familiar.

12. A full reference list of peer-reviewed literature cited herein is annexed hereto.

Opinions

13. Scientific knowledge about chimpanzees is vast and has been increasing at an exponential rate. We must therefore be aware that what we know now is still only a small fraction of what chimpanzees are capable of.

14. Here I discuss several areas particularly relevant to the ability of chimpanzees to bear duties and responsibilities as evidenced by the social obligations that chimpanzees fulfill in their social life in the wild.

Cooperation and Group belonging: Solidarity in between-group contexts

15. Territories are aggressively defended in all chimpanzee populations that have been studied and the participants in patrols controlling the borders are mainly the adult males. Whenever intruders are spotted, males on a voluntary basis converge to defend their territory as a team (Goodall 1968, Mitani et al. 2002, Boesch and Boesch-Achermann 2000). If not enough males are present, the firsts silently sit down and wait for other group members to join. Only once a large enough group is built are they going to confront the others (Boesch and Boesch-Achermann 2000, Boesch et al. 2009, Boesch 2009). This reveals some expectations about the social participations of group members.

16. Impressive supports by male group members are provided to rescue isolated individuals that have been taken prisoner by intruders (Goodall et al. 1979, 1986, Boesch 2009, 2012). Outnumbered individuals during intergroup encounter were observed to sustain severe injuries in 40% of the cases, leading to death in 15% of the severe attacks (Mitani et al. 2002, Boesch et al. 2008). In one example in the Tai forest, a single adult male with an adopted infant on his back rushed for 600 meters to rescue an adult female from his group that was trapped and beaten up by 5 male intruders. His appearance created enough of a havoc to allow the female to escape. In Tai chimpanzees, such risky supports are provided in 28% of the intergroup encounters (Boesch et al. 2008). This spontaneous high level of altruism toward group members in this chimpanzee population reveals the sense of obligation felt by them to help and protect one another.

Cooperation and Group belonging: Within-group solidarity

17. Help and tending of injured group members: Tai chimpanzee group members have been seen to help and tend the injuries of wounded individuals for extended periods of time (see also my previous affidavit). What is striking in this helping of others is that upon hearing the alarm calls of an attacked individual (through a leopard or another chimpanzee), the males hearing the calls within seconds would make loud supporting whaa-barks, reassure one another and rush towards to caller to help. The rapidity of the help is decisive in the case of a leopard attack (Boesch 1991, 2009). I have always seen all males visibly present in rush to support, so as if this within-group solidarity was obvious to them. If callers had sustained injuries, the rescuers and other group members would converge towards the injured and clean and lick the wounds for many hours, and in some cases such help would extended for many days as long as the wounds were not healed and presented a risk of infection.

18. Important social contributions are rewarded in hunting context: The striking fact in the hunting context is the very high level of cooperation between the males that act as a team to capture small monkeys up in the trees (Boesch and Boesch 1989, 2000, Boesch 2002, 2009, Mitani et al. 2002). In Tai, once a capture has been made, the meat-sharing rules favor the hunters; males receive more meat if they participated in the hunt and even more so if they made an important contribution to the hunt (Boesch 1994, 2002, 2009). What is intriguing is that hunting roles requiring anticipation of the prey movements are as equally well rewarded as capturing the prey, even if the individuals doing such movements were not making a capture. Somehow, the group members realize that anticipating a prey is an essential part of a successful hunting team and they value this equally high than the one doing the capture itself (Capturing the prey and performing complex anticipation ensures the same amount of meat, Boesch 2002). Less important hunting movements, such as chasing or driving the prey, are not valued so highly by other group members, as they rarely make a decisive contribution to the capture (Boesch 2002, 2012). This higher social valuing of hunting contribution by other group members allows for this cooperative system to be stable (Boesch 1994, Packer and Ruttan 1988, de Waal 1996).

19. Punishment is part of the meat sharing rules: The rewarding of certain action leads to the passive punishment of individuals that are looking to access meat, but because they did not contribute to the hunt are only meagerly receiving some: Individuals that were present during the hunt but did not participate in it, received 2.6 times less meat than hunters (Boesch 2002, 2009). This rewarding of one's hunting contribution is often in conflict with dominance hierarchy (as dominant males are not always present during a hunt or simply not hunting), and despite the impressive and sometimes violent attempts by the dominant males to access the meat, hunters will be reliably allowed access to more meat by the sharing group (This observation

applies only to the Tai chimpanzees and not to other chimpanzee populations where the meat sharing patterns follow different rules [e.g. Goodall 1986, Nishida et al. 1992, Uehara et al. 1992, Watts and Mitani 2002]). Regularly, we see dominant males, which want to access meat, display violently towards meat eaters, but access to meat is denied by the group of chimpanzees present (Boesch and Boesch 1989). In other feeding contexts, like in fruiting trees or when large amounts of fruit are clustered on the ground, alpha males can ascertain their priority of access; Only in meat eating is his access denied or limited, when he did not participate in the hunt.

20. Informing group members about danger: Chimpanzees have demonstrated a high sense of solidarity towards ignorant group members, which they would inform about the presence of a danger, like a snake for example. In a neat series of experiments, it was possible to show that if a chimpanzee discovers a snake near a path and he is followed at some distance by another chimpanzee that is ignorant about the danger, the first individual will make alarm calls until the follower sees the danger. In addition, he will position himself such that his body is pointing towards the snake. If, however, he is followed by a chimpanzee that is aware of the presence of the snake, he will remain silent (Crockford et al. 2012). This was observed with chimpanzees living in the Budongo forest in Uganda. This reveals that such a high sense of within-group solidarity is not restricted to one population or a response to one specific environmental condition, but is more a general property of social life in chimpanzees.

21. High investment to support weak individuals: Evidence from both captive and wild chimpanzees indicates that they are capable of highly developed empathic abilities (de Waal, 1990). Young chimpanzees are breast-fed and cared for 5 years by their mothers, so that when they loose them they remain especially vulnerable. Adoption of orphans is rather common in chimpanzees, and as seen in other primate species, females are often doing the adoption of

orphans (Goodall 1986, Riedman 1982, Thierry and Anderson 1987). In Tai chimpanzees, we observed that half of the adoptions were done by adult males, which was intriguing, and in a few cases we could show that they were not genetically related to the adopted ones (Boesch et al. 2010). Adoption is a very costly behaviour as it may require carrying the infant over long distances for days and months, sharing the nest and food with them and protecting them in cases of social squabbles.

22. Based upon my research and expertise in this field, I support the NhRP's petition for a writ of habeas corpus on behalf of Kiko and the application of common law personhood to chimpanzees.



Christophe Boesch

Sworn to before me
this 14 day of October, 2015

Notary Public

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The following notarial act is just a confirmation of signature.

I hereby certify that the above is the true signature, subscribed in my presence, of

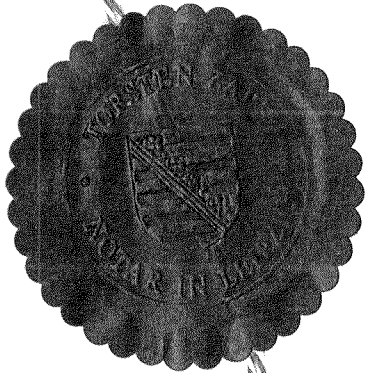
Mr. Prof. Christophe Bösch


Date of Birth: 11-08-1951 in St. Gallen

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-identified by his French Passport No. 13BC63470-

Leipzig, 14/10/2015




Torsten Zapf, public notary

APOSTILLE

(Convention de La Haye du 5 octobre 1961)

1. Land: **Bundesrepublik Deutschland**

Diese öffentliche Urkunde

2. ist unterschrieben von **Herrn Zapf**

3. in seiner Eigenschaft als **Notar**

4. sie ist versehen mit dem Siegel des

Notars in Leipzig Torsten Zapf

Bestätigt

5. in **Leipzig**

6. am **20.10.2015**

7. durch den **Präsidenten des Landgerichts**

8. unter Nr. **910A-731/2015**

9. Stempel/Siegel

10. Unterschrift



Karl Schreiner
Präsident
des Landgerichtes Leipzig

