Monitoring the Health of Endangered, Wild Chimpanzees

Siv Aina Jensen Leendertz has studied wild chimpanzees living in the tropical rain forest in Ivory Coast at close quarters for a year, and her doctoral thesis describes the health monitoring of this endangered species. Her thesis focuses on the risk of retroviral infection in these chimpanzees due to their hunting of monkeys.

Infectious diseases represent a growing threat to wild chimpanzees and other endangered species of apes. There is therefore a great need to monitor the health of these animals and to map sources of infection in their habitat.

Siv Aina Jensen Leendertz' research has shown a high incidence of the retroviruses simian immunodeficiency virus (SIV), simian T-cell leukemia virus (STLV- type1) and simian foamy virus (SFV) in red colobus monkeys, which are the main prey of chimpanzees. Furthermore, she shows that the chimpanzees become infected with SFV due to their habit of hunting these monkeys.

However, infection by SIV was not detected in the chimpanzees, even though they are highly exposed to this virus. This apparent resistance poses interesting questions about the host-parasite relationship between SIV in red colobus monkeys and wild chimpanzees in their natural habitat. Retroviral infections in primates are precursors of, for instance, the human immunodeficiency virus HIV and Leendertz' doctoral research can therefore contribute towards research into retroviral infections in humans.

The thesis also describes general principles for health monitoring. The health of wild chimpanzees often has to be monitored from a distance and samples for analysis consist for the most part of faeces and urine. Leendertz has therefore developed and refined methods that are particularly apt for this kind of fieldwork.

Her research has been carried out in collaboration with The Robert Koch Institute in Berlin, The Tai Chimpanzee Project at the Department of Primatology at The Max Planck Institute for Evolutionary Anthropology in Leipzig and The Epidemiology and Biostatistics Centre at The Norwegian School of Veterinary Science.

Siv Aina J. Leendertz presented her doctoral thesis on 29th October 2010 at The Norwegian School of Veterinary Science (NVH). The thesis is entitled: “Investigation of wild chimpanzee health and risk of retroviral infection through hunting of red colobus monkeys.”