A Holistic Approach to Chimpanzee Conservation in the Republic of Congo

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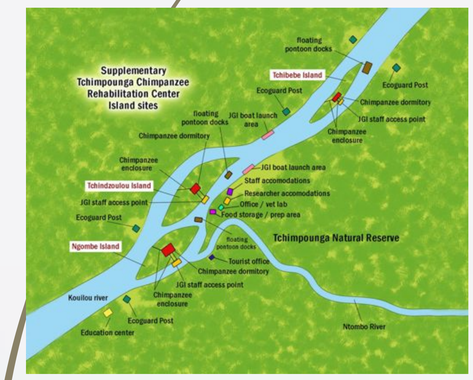
INTRODUCTION

Chimpanzees (*Pan troglodytes)* are members of the Great Ape family and are our closest living relatives in the animal kingdom. They are native to equatorial Africa including the Republic of Congo. However, with fewer than 300,000 individuals left in the wild, they are in danger of becoming extinct due to poaching, the bushmeat industry, the illegal pet trade, habitat degradation and disease. An engaged learning experience at the Jane Goodall Institute's Tchimpounga Chimpanzee Rehabilitation Center revealed the ins and outs of what it takes to help conserve the chimpanzees of the Congo, and efforts needed to save them. A holistic approach is necessary in order to provide the best quality of life for these rescued animals. In addition to involving a variety of disciplines to conserve these majestic animals, it is also essential to tailor conservation efforts for the individual as well. What will work for one individual might not necessarily work for another, since chimpanzees have such different and unique personalities you cannot rehabilitate each one in the same manner.

HISTORY OF TCHIMPOUNGA

- **1980s**- Jane Goodall discovers a young chimpanzee in a market place in Congo
- **1992**- Tchimpounga established by negotiations between the Jane Goodall Institute and the Congolese Government
- **2005**- Dr. Rebeca Atencia becomes the director/head veterinarian at Tchimpounga
- **2011**- Three major islands in the Kouilou River obtained by JGI for chimp conservation.
  - Ngombe
  - Tchindzoulou
  - Tchibebe
- **Present**- The sanctuary currently houses 155 chimps with capacity for 200

THE ISLANDS



REHABILITATION/REINTRODUCTION

Since most chimpanzees that come to Tchimpounga are orphaned infants, caretakers follow a very close-contact rehabilitation protocol in order to provide the best care for these orphaned babies. As these chimpanzees begin to grow and adapt to their new environment, their care and management changes so as to accommodate their specific needs at every life stage. The following flow chart (Figure 1)illustrates the rehabilitation process a chimpanzee will typically go through from the moment they arrive at Tchimpounga to when/if they are released back to the wild. This is the general rehabilitation process for most chimpanzees, though there may be exceptions or changes in the order of these processes to meet medical or psychological needs.

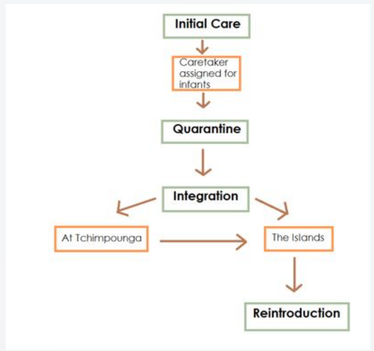
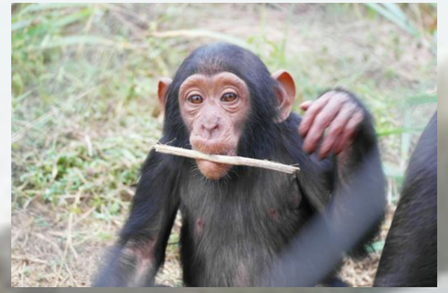


Figure 1. The flow chart illustrates the order of proceedings when a new chimpanzee is admitted to Tchimpounga. Most of the new comers are infants, victims of poaching and illegal bushmeat activities. These young chimpanzees are placed under the care of a female caretaker, that is with them 24/7. Since many have undergone traumatic experiences, it is essential that they learn to trust humans again so that the best possible care can be provided for them. Female caretakers are chosen at this initial stage because the babies are more likely to form a bond with women, as they are usually afraid of men since they are the perpetrators of illegal hunting. After several weeks or even months with a female caretaker the youngsters are placed in a group by themselves and are gradually "weaned" off their human caretaker. This is to prevent too much attachment to humans. At this stage there is still some human to chimp contact, so as to facilitate medical procedures and easy examination by veterinary staff. As the chimps get older and begin to form hierarchies within their groups, they will usually get transferred to one of the three islands off the Kouilou River. Here they have even less human contact, and more access to open forest to explore and solidify social connections with members of their community. Once all members of a group are fit (both psychologically and physically) they can be considered for reintroduction in nearby Conkouati-Douli National Park. The whole process can take years or even decades until the chimps are well into adulthood. Not all chimps are releasable, even if they make it to the islands. A thorough assessment is done to determine fitness in these chimps. Chimps that are too humanized, have chronic illnesses or permanent handicaps are not released. Chimpanzees are never released alone. As highly social animals, they rely on team cooperation for food gathering and companionship.



PROJECTS

My time in Tchimpounga was mostly spent learning about a variety of techniques used in chimpanzee care and welfare and how each area of study can facilitate conservation efforts. In my time at the sanctuary I had the opportunity to explore each of the following topics:

1. **Water Cultures** – I tested the water sources around the sanctuary for potential pathogens that could result in disease outbreaks at the sanctuary
2. **Parasitology-** I learned about common chimpanzee intestinal parasites such as *Ballantidium and Strongoloides* and practiced techniques on how to identify them under the microscope by using wet mounts and gram stains.
3. **Hematology-** I conducted blood smears, gram stains, and conducted a Bette Vincent cross matching technique to find a suitable donor for a blood transfusion. I helped to calculate red and white blood cell counts for sick chimpanzees
4. **Morphometrics-** I contributed to an ongoing effort to develop a Malnutrition index for chimpanzees by taking measurements of chimp morphology.
5. **ELISA Testing-** In an ongoing effort to understand the correlation between cortisol levels and chimpanzee welfare, I conducted ELISA testing on chimp fecal samples to detect the point at which stress levels are most elevated during the rehabilitation process. Preliminary data suggested greatest stress is occurring at integrations.
6. **Welfare Index-** I assisted the manager of Tchimpounga's island sites to incorporate a welfare index to assess chimpanzee welfare for all of the island chimpanzees. Each Chimpanzee receives a score, from 1-4 in a variety of different categories like husbandry, socialization, health etc. Chimpanzee scores are tallied up and they receive a grade that is indicative of their overall welfare status.
7. **Clinical Cases-**I also observed three clinical cases on chimps. Those of Betou, who suffered from cancer; Lounama, who suffers from heart failure, and Youbi, who came in with anemia and extreme malnutrition.

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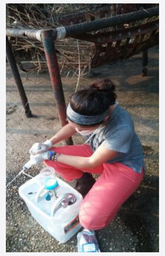

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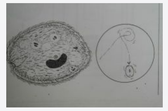

Ballantidium

Strongoloides

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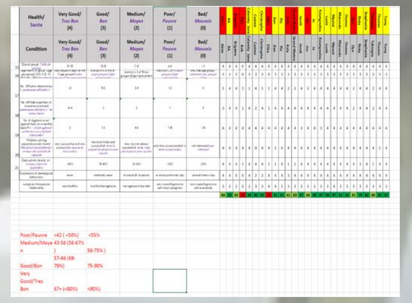

7.

INVOLVING OTHER DISCIPLINES

Another fascinating aspect of conservation that I got to explore is the importance of incorporating other disciplines into the field of conservation. Throughout my stay at the sanctuary I was able to see how integration of complementary disciplines has ensured the survival of Tchimpounga Santuary and its mission of conserving chimpanzees together with local communities :

- **Architecture**- Building and expansion of the sanctuary infrastructure is needed to meet the needs of the chimpanzees in a way that provides safety for both the chimpanzees and their caretakers. Chimpanzees are very intelligent and expert escape artists; therefore, it is important to design and create a space that will be difficult for them to escape from without impacting their welfare.
- **Botany**- Habitat surveys of future release sites require knowledge and identification of the appropriate flora necessary for the species to survive. It is also important to know if the food supply is abundant enough to sustain the introduction of the species or if toxic plants are present.
- **Sociology**- In the end, conservation is about people! As such it is necessary to have the support from the local people and understand their needs as a community. Education for everyone in the community is essential to provide them with alternatives for making a living that don't involve going into the forest to hunt for bushmeat. Having good social relationships with local people is what allows Tchimpounga to thrive.
- **Film and PR-**In order to promote the activities of the sanctuary and it's charitable mission, it is important to document the conservation work at Tchimpounga so that the world is aware of the urgent plight of the chimpanzee. Creating video documentary films allows potential donors to see where their money is going and persuades them to continue to support the sanctuary in the future. It also helps to inspire young people to enter the field of conservation so that they too can contribute to helping endangered animals around the world.

CONCLUSIONS

This enriching experience at one of Africa's largest chimpanzee sanctuaries, provided a unique opportunity to understand the tremendous amount of work it takes to successfully run such an operation. I now understood that rehabilitation and reintroduction is not as easy as simply releasing animals into the wild, but that there is a precise protocol set in place that provides these animals with their best chance at survival in the wild. These short projects gave me further insight into the welfare of chimpanzees and how science and health can enrich our knowledge for decision-making. The clinical cases studied are evidence that conservation approaches must be tailored to individuals in order to give these complex animals a better chance of survival. I also discovered that a variety of disciplines, including veterinary medicine, are necessary for a holistic approach to conservation to be successful.