

**Investigation on Bonobo die-off of unknown origin at the Sanctuary “Lola ya Bonobo” at Kinshasa, DRC,
2015-2016**

***Enquête sur les décès des Singes Bonobo de cause inconnue au Sanctuaire “Lola ya Bonobo” à Kinshasa, en
République Démocratique du Congo entre 2015 et 2016***

Kumakamba C¹, Raphael Belais², Kisile O⁴, Nkawa F¹, Ipos Ngay¹, Amethyst Gillis¹, Mike Cranfield³, Mulembakani P¹,
Muyembe JJT⁵
pmbala@metabiota.com

Summary

Introduction. Emergence of new or unknown pathogens in animals may presents threat to human health. Are especially at risk: animal keepers and veterinarians, because of very close and regular contact with animals. The PREDICT-2 project was requested by the team at "Lola ya Bonobo" to help identify the pathogens causing the death of 4 females bonobos between April 2015 and May 2016. The animals presented with neurologic symptoms without fever, and respiratory distress, with a rapid evolution to death within four days.

Methods. Biological specimens were collected by the Sanctuary staff from sick animals as well as during necropsy. Suspicion of encephalitis (viral and bacterial encephalitis, Encephalomyocarditis Virus – EMCV, toxoplasmosis, and oesophagostomum) was made and biochemistry, bacteriology, parasitological, serology (IgM/IgG anti-toxoplasma and anti-trypanosome antibodies) and hem culture analyses were performed at INRB. Pathological slides were prepared from brain tissues and sent to the Mountain Gorilla Veterinary Project team in Goma for analysis. Oral swabs and tissue samples (lung, liver, spleen, kidney) were tested for the following viral families at the PREDICT lab: Filovirus, Flavivirus, Bunyavirus, Hantavirus, Paramyxovirus, Influenza virus, Coronavirus and Enterovirus including EMCV virus.

Results and conclusion. All results were negative. Cerebral-Spinal Fluid was available for two animals and their analysis was positive for Herpes virus strains. No human case of disease in relation with these animal events was reported. The die-off appeared to be contained to the bonobo sanctuary, were the staff implemented hygienic measures in dormitories, cages, enclosures and feeding areas.

Keywords: Bonobo sanctuary, die-off, unknown origin of death, DR Congo

1 Metabiota, DRC

2 Lola ya bonobo (Bonobo Sanctuary)

3 Montain Gorilla Veterinary Project (MGVP)

4 Pathology Department of the University of Kinshasa

5 Institut National de Recherche Biomédicale