**Ebola**

Summary

* Introduction
* 1) Viruses
* 2) Interspecies Transmission processes
* 3) Biodiversity Damage
* Conclusion / Opening
1. Virus

a : What is a virus?

* + - Considered like a non-living entity
		- Needs a host to survive
		- 2 types: DNA and RNA virus
		- Life cycle

Life cycle



 b : Description of Ebola Virus

* + - Photography
		- Infection processes
		- Specificities

Ebola virus Photography

80 nm in diameter

Filovirus family

~ 19000 nucleotids

288 amino acids

codes for seven structural proteins and one non-structural protein



Infection processes

* Blood
* Organ secretion
* Body fluids

Specificities

* 4 types of Ebola virus :
	+ - Zaire
		- Sudan
		- Ivory Coast
		- Reston
* Incubation period : 2 to 21 days
* Pathologies : hemorrhagic fever, death by stroke
1. Human contagion
	* 1. Transmission between species
		2. Geographical distribution
		3. Mode of action and Symptoms

Transmission between species

Mecanism of action

* Every tissues are affected, excepted bones and muscles.
* The virus creates blood clots.
* Clots goes towards internal organs (lungs, eyeballs…).
* It prevents oxygen to rise tissues.
* The virus also destroys connective tissues (affinity with collagen).

Symptoms

* Initial symptoms :
	+ High temperature (at least 38.8°C)
	+ Muscle, joint, abdominal pain
	+ Nausea
	+ Blood stream slow down
* Late symptoms:
	+ Diarrhea
	+ Vomitting blood
	+ Hemorrhage of sclerotic arterioles
	+ Internal and external haemorrhages from orifices (nose, mouth, skin, eyes)
1. Biodiversity damages

Lethality rate : between 50% and 90%

Death after 6-10 days

Outbreaks of Ebola Virus in Africa from 1976 to 2005

*(OMS)*



Gorilla, chimpanzee, and duiker population indices



*Multiple Ebola virus transmission events and rapid decline of Central African wildlife, SCIENCE, 2004.*

Conclusion

* Ebola virus is extremely virulent
* The infected organism does not have time to react to the virus
* First symptoms appear during the critical period.

Opening

* Methods needed to detect the virus as soon as possible: PCR ≠ ELISA techniques
* How bats can be protected against the Ebola Virus?