


## Amphibian decline: infectious agents and bull frogs, truth or hype?



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## Chytridiomycosis

- ~ amphibian decline
- Global Amphibian Assessment




Global Distribution of Chytrid fungus

● number of species with chytrid - reported in wild populations  
 ● number of species with chytrid - reported in captive populations



## Chytridiomycosis

- origin



## Pathogenesis




**Clinical signs**

## Diagnosis

- Histology
- (culture)
- (RT)PCR

## Situation in Belgium: wild

- 2005-2007:
  - Die offs of amphibians in ponds: 23 cases: negative
- Preliminary screening 2005
  - B bufo 16
  - S salamandra 9
  - R temporaria 5
  - T alpestris 9
  - T helveticus 4
  - T vulgaris 4
  - T cristatus 1

## Situation in Belgium: captive?

- Regular outbreaks in captive collections
- Probably (!) wide spread



## *R. catesbeiana* and chytrid?

- Garner et al. (2006): The emerging amphibian pathogen *Batrachochytrium dendrobatidis* globally infects introduced populations of the North American bullfrog, *Rana catesbeiana*. Biol. Lett. 2, 455-459.
- Belgium (Pasmans and Jooris, in prep.):

## Open questions

- Situation in Belgian amphibians?
  - Large scale monitoring eg during reproduction
- Pathogenicity of Bd for our amphibians?
  - Clinical disease / fitness / reproductive success etc...
- Pathogenesis of Bd in amphibians?
  - In vivo and in vitro pathogenesis studies
- Control measures applicable in the field?

## Running projects

- Systematic screening of native amphibians, brought for necropsy for chytridiomycosis and ranavirosis
- Pathogenesis of Bd infections in amphibians (PhD study, from 1/10/2008)