Chytridiomycosis

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amphibian ark

Chytridiomycosis

- Caused by the pathogen *Batrachochytrium dendrobatidis*
- (Class Chytridiomycetes, Order Chytridiales)
- First report of chytrid in vertebrates
- Abundant and diverse group of fungi.
- Not described until 1998.

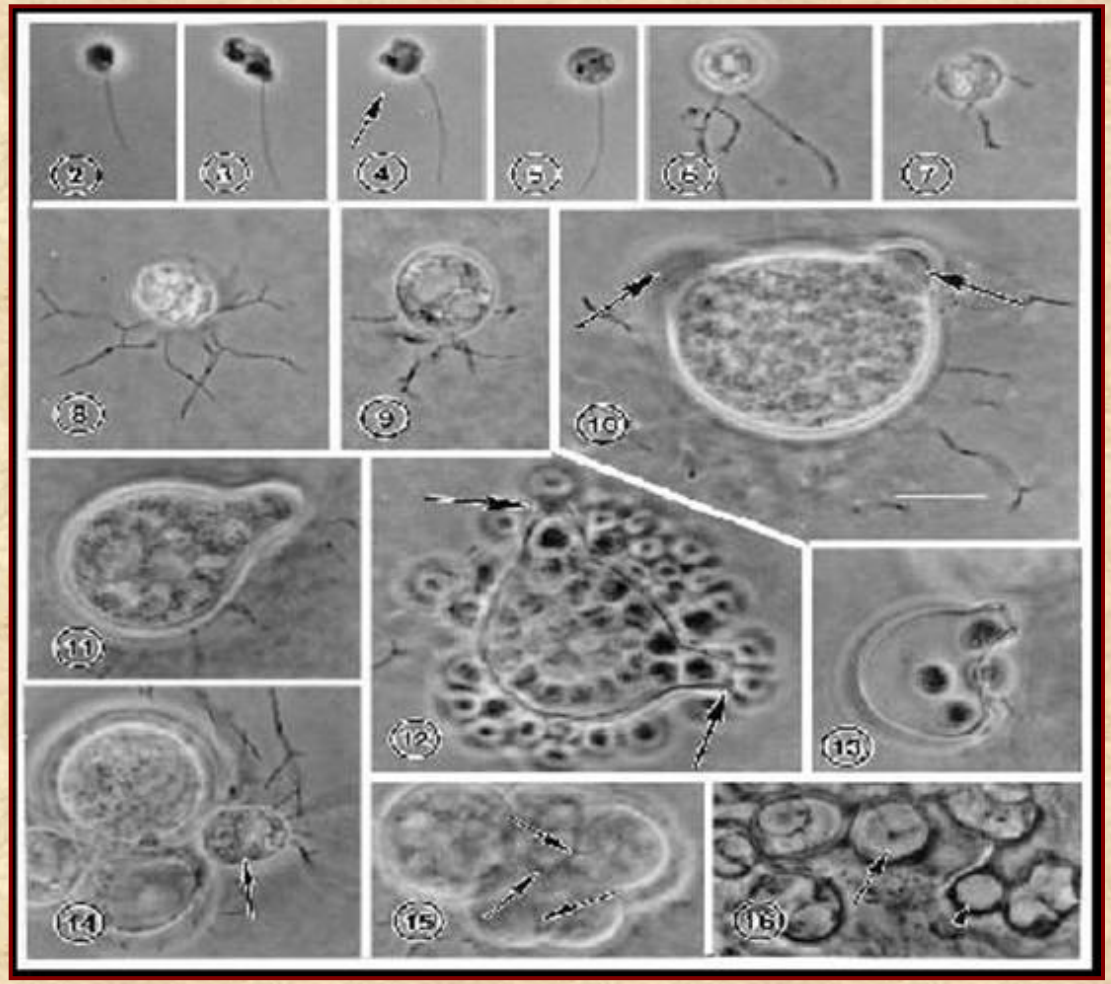
Chytrid as a cause of mass declines and extinctions

- It is suspected that chytrid fungus has been responsible for the extinction of a great number of species in recent decades.
- It has been implicated in the extinction of 8 species in Australia and many, many more throughout Central America.

How does it kills frogs?

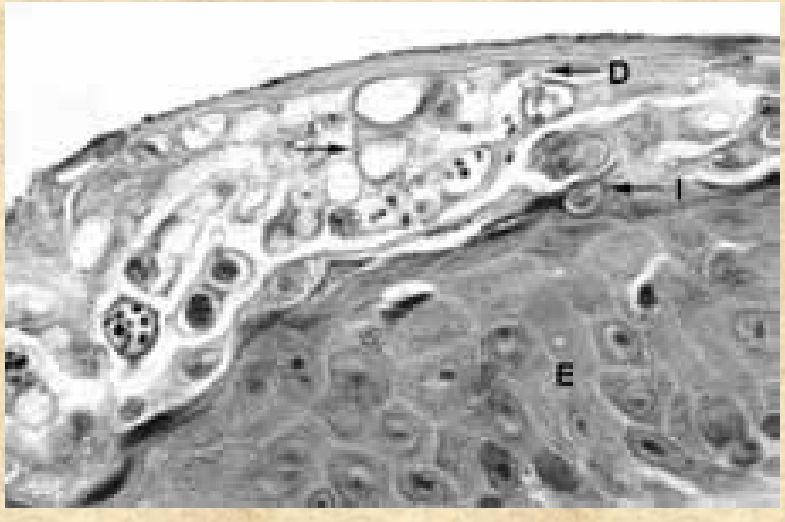
- Interruption of osmoregulation?
- Release of toxins?
- A combination of these factors?

The Chytrid life cycle



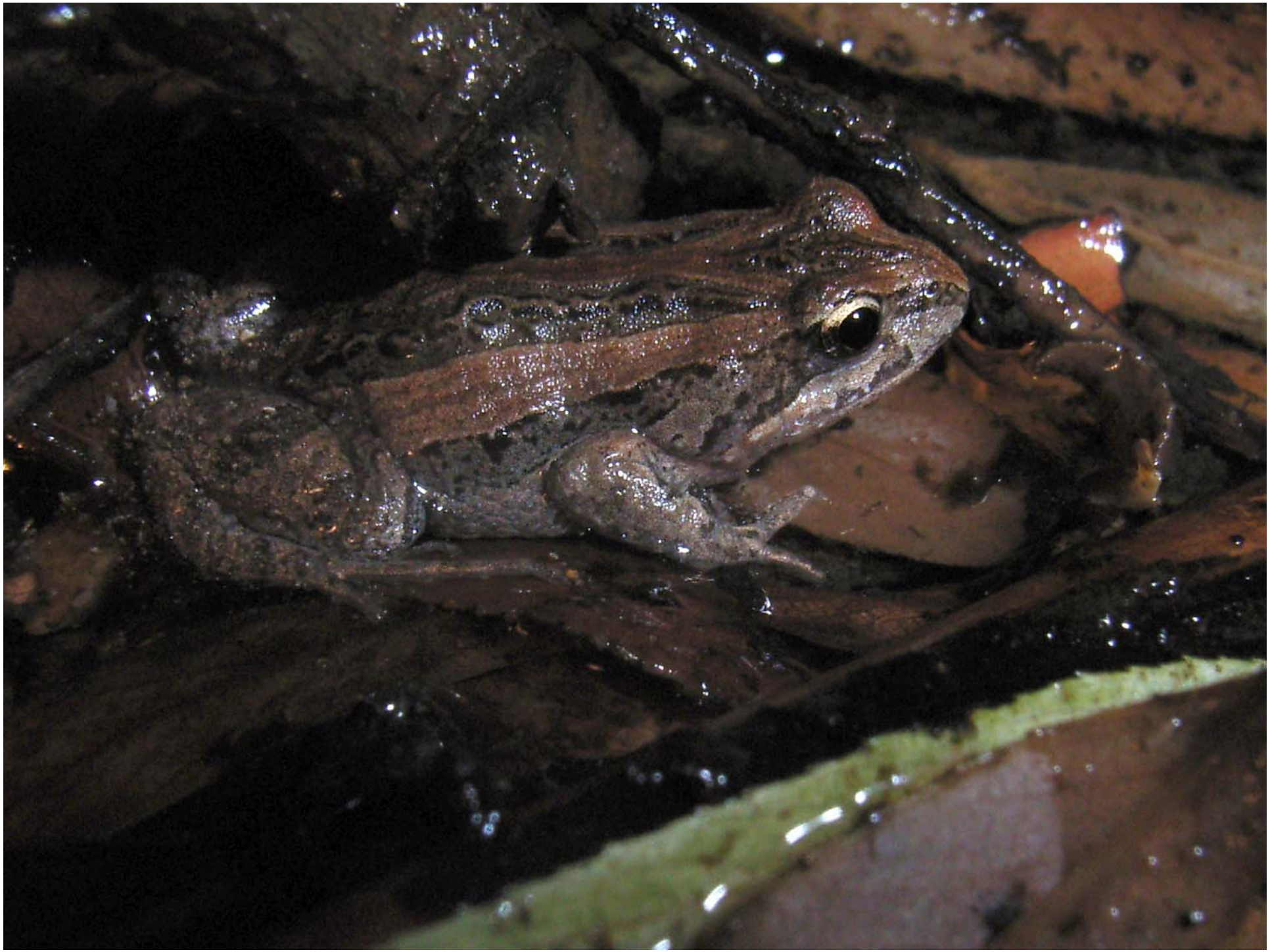
Clinical Signs

- Behavioural Change
- Neurological Signs
- Skin Lesions
- Death



Infection with Chytrid

- Frogs susceptible to Chytrid fungus often die within 18-48 days after exposure.
- Tadpoles can carry the fungus in their kertanised mouthparts but will not die from it.
- Not all species are affected, some can live with no effects. These can act as reservoir hosts.



Ideal Chytrid Environment

- Cooler temperatures –grows best between 17-25˚C and dies at over 30˚C.
- Must remain moist – it is a waterborne fungus.

Diagnosis of Chytrid Fungus

- PCR- real time Taqman
- Enzyme Linked Immunosorbent Assay (ELISA)
- Microscopy – Histology or examination of skin scrapings
- Culture

Treatment for Chytrid

- Many treatments have been tested with limited success.
- Itraconozole baths have had the best success to date.
- Heat treatment can be effective depending on the tolerance of the species.
- An antibiotic, chlorophenicol, is currently showing signs of success treating chytrid fungus and is undergoing further research.