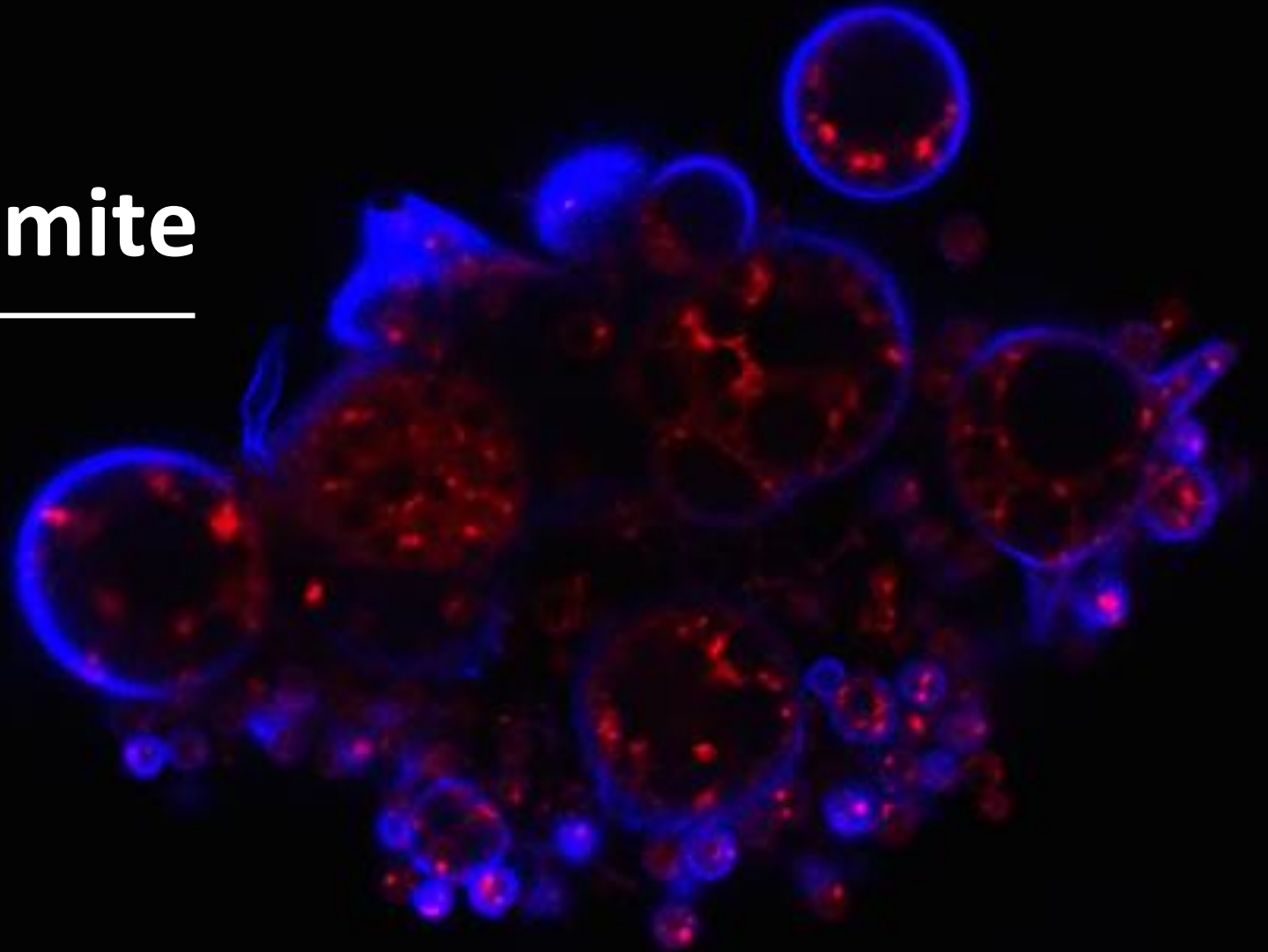
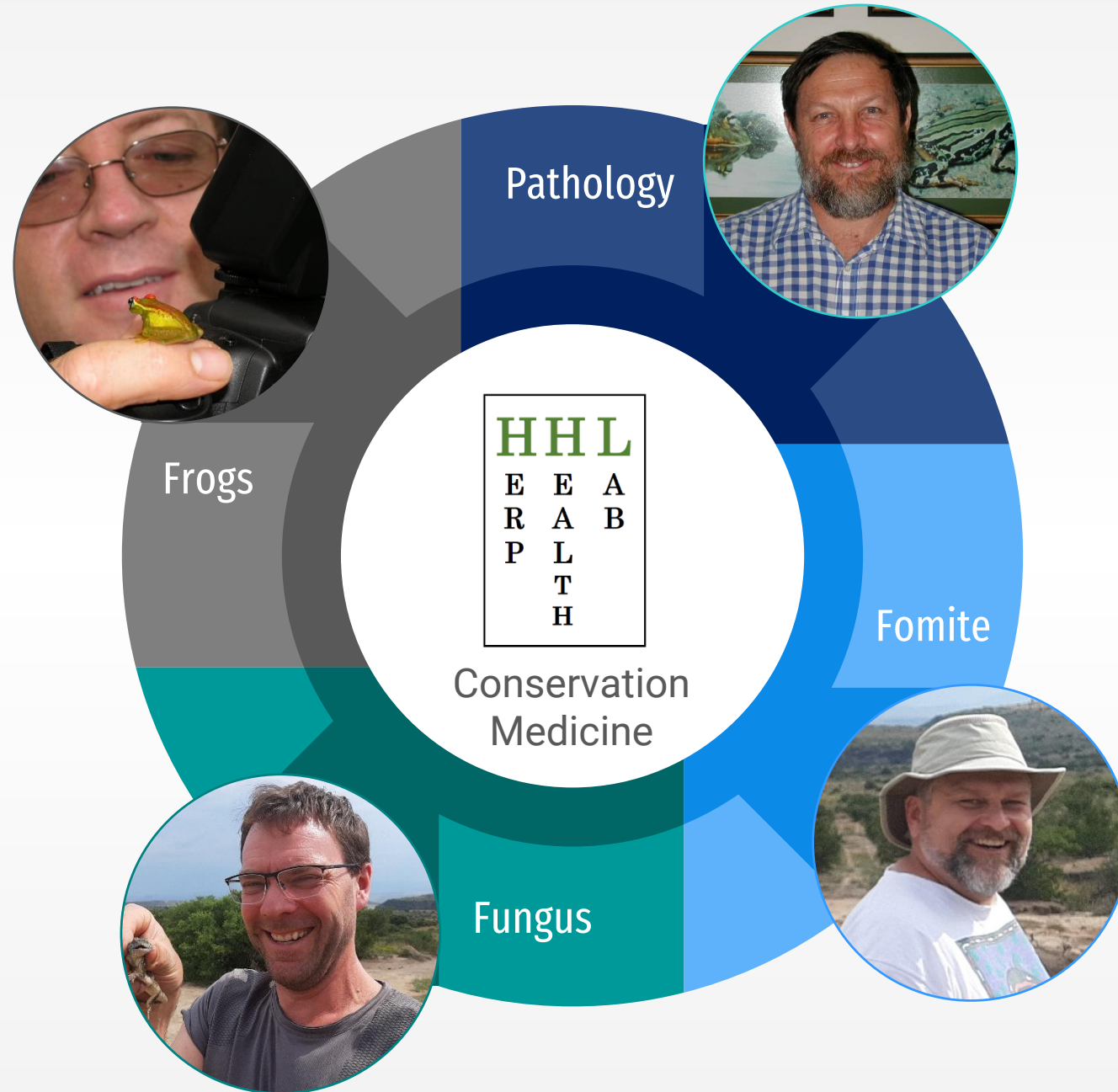


Fungi, Frogs and Fomite

Ché Weldon
Professor in Zoology





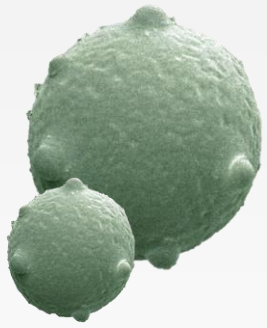


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CHYTRIDIOMYCOSIS

Causative agent
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IMPORTANT FINDINGS

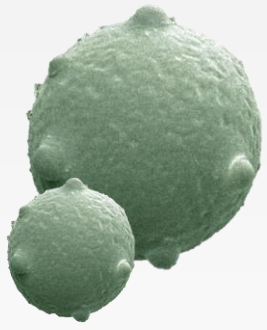
Surveillance, genetics
and conservation

04

ROAD AHEAD

Ongoing and
future research





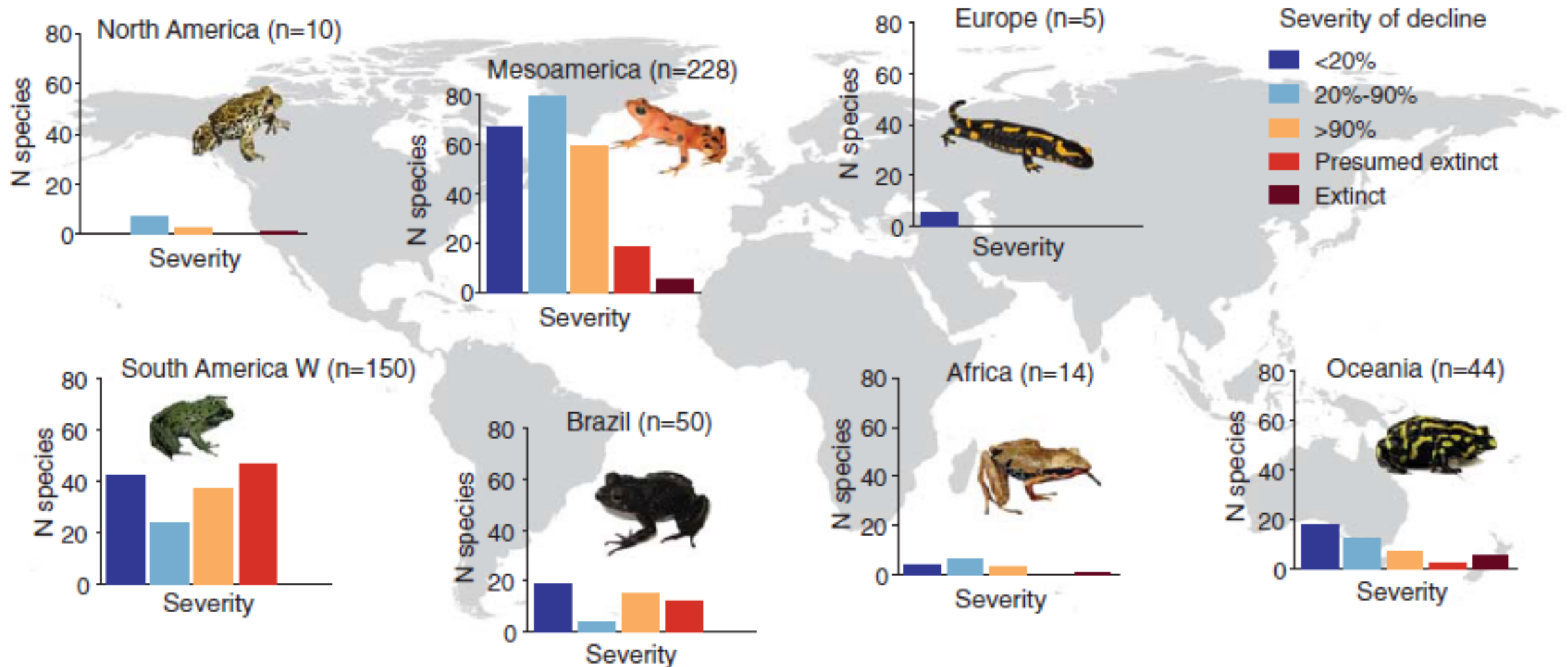
01

CHYTRIDIOMYCOSIS

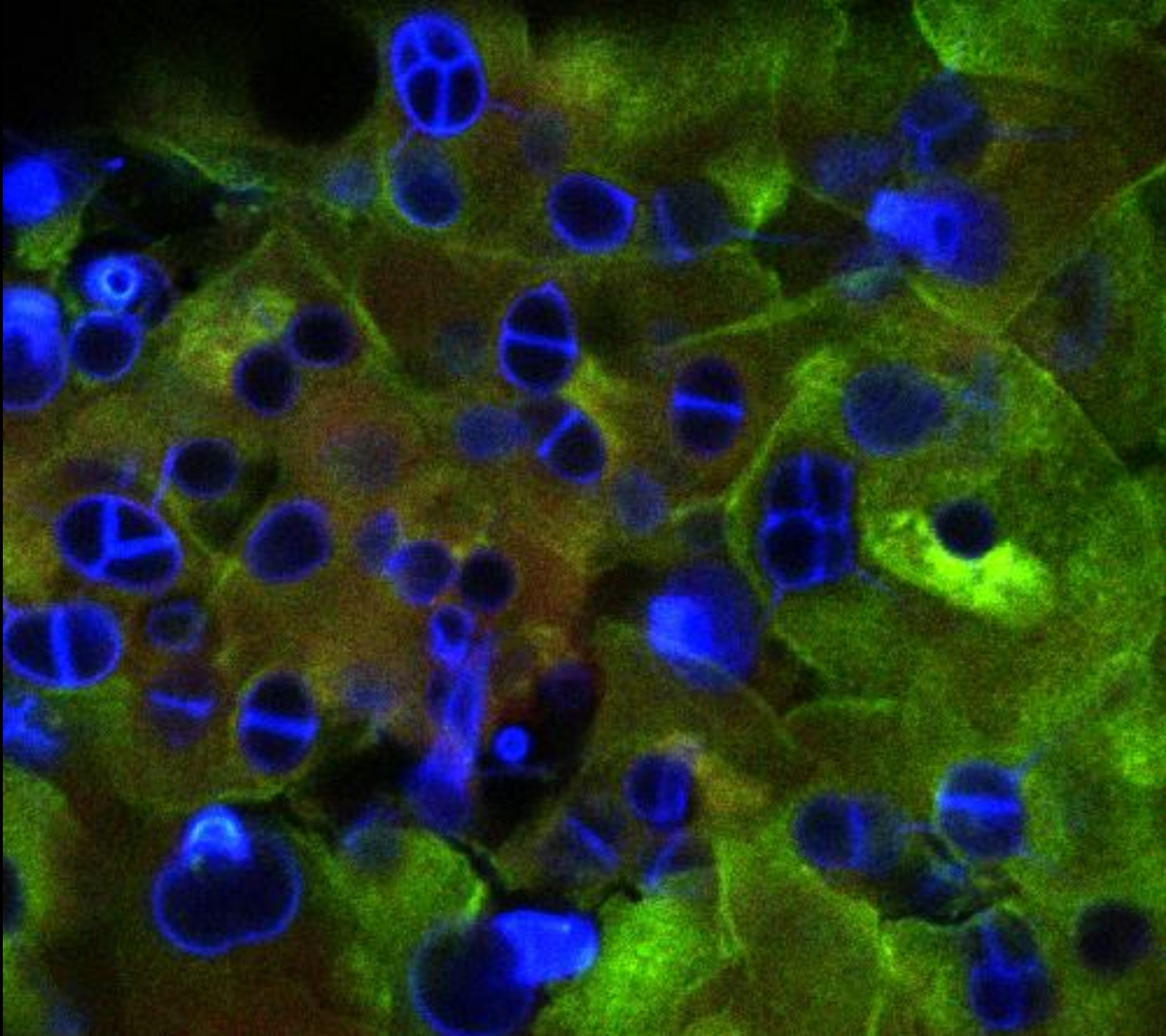
Amphibian chytrid fungus
Batrachochytrium dendrobatidis (Bd)



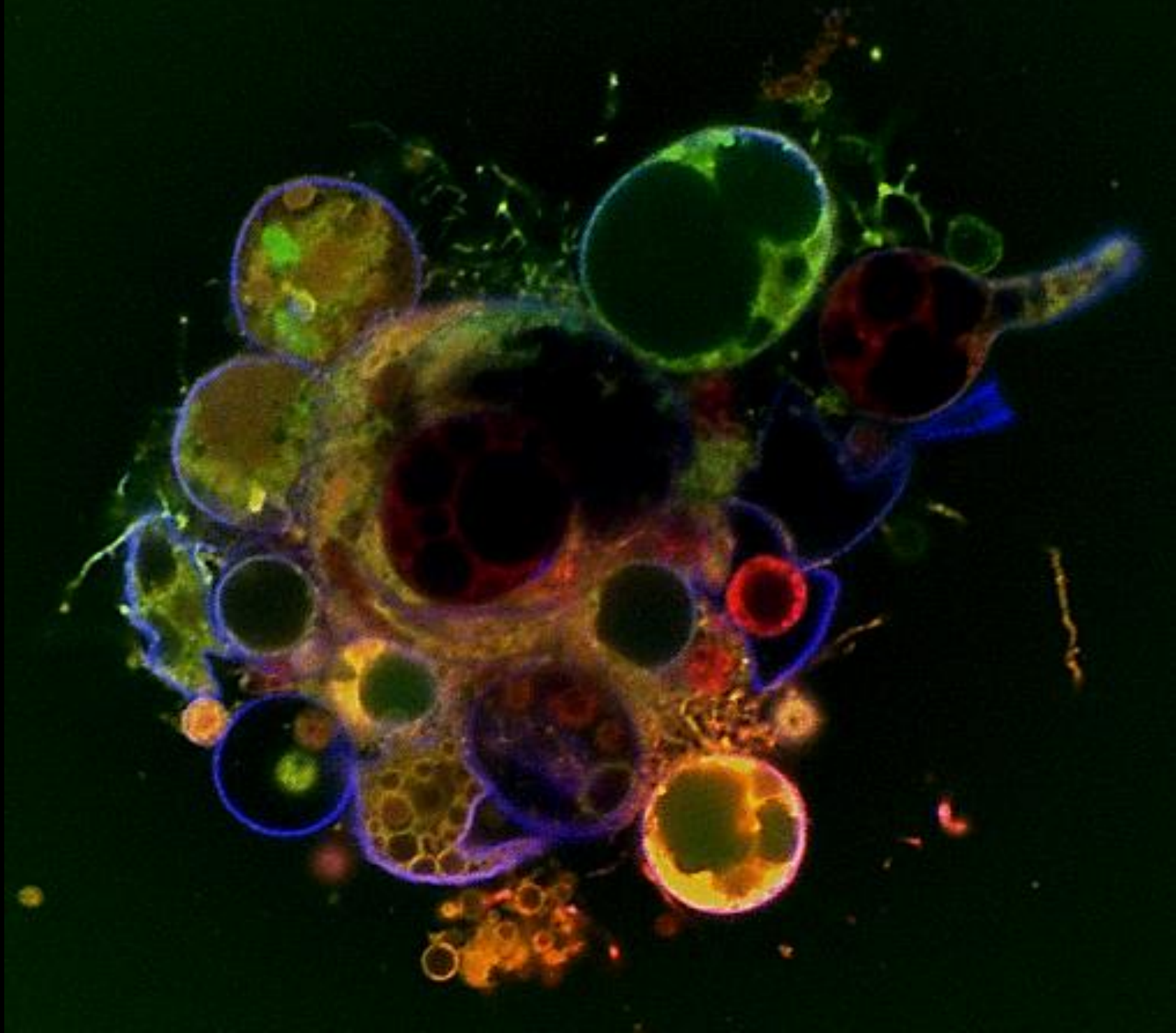
Amphibian biodiversity loss



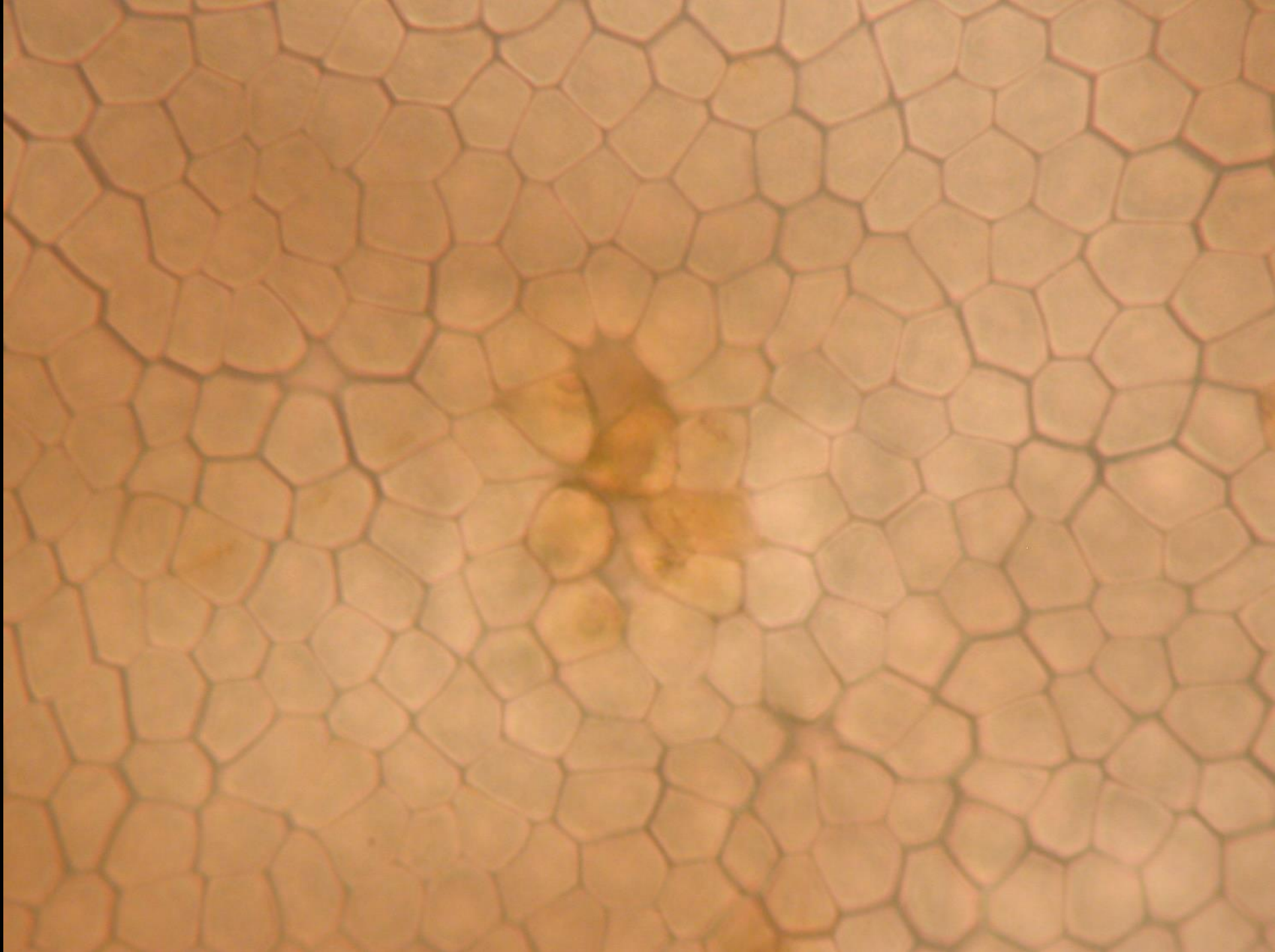
LSCM:
Bd in skin



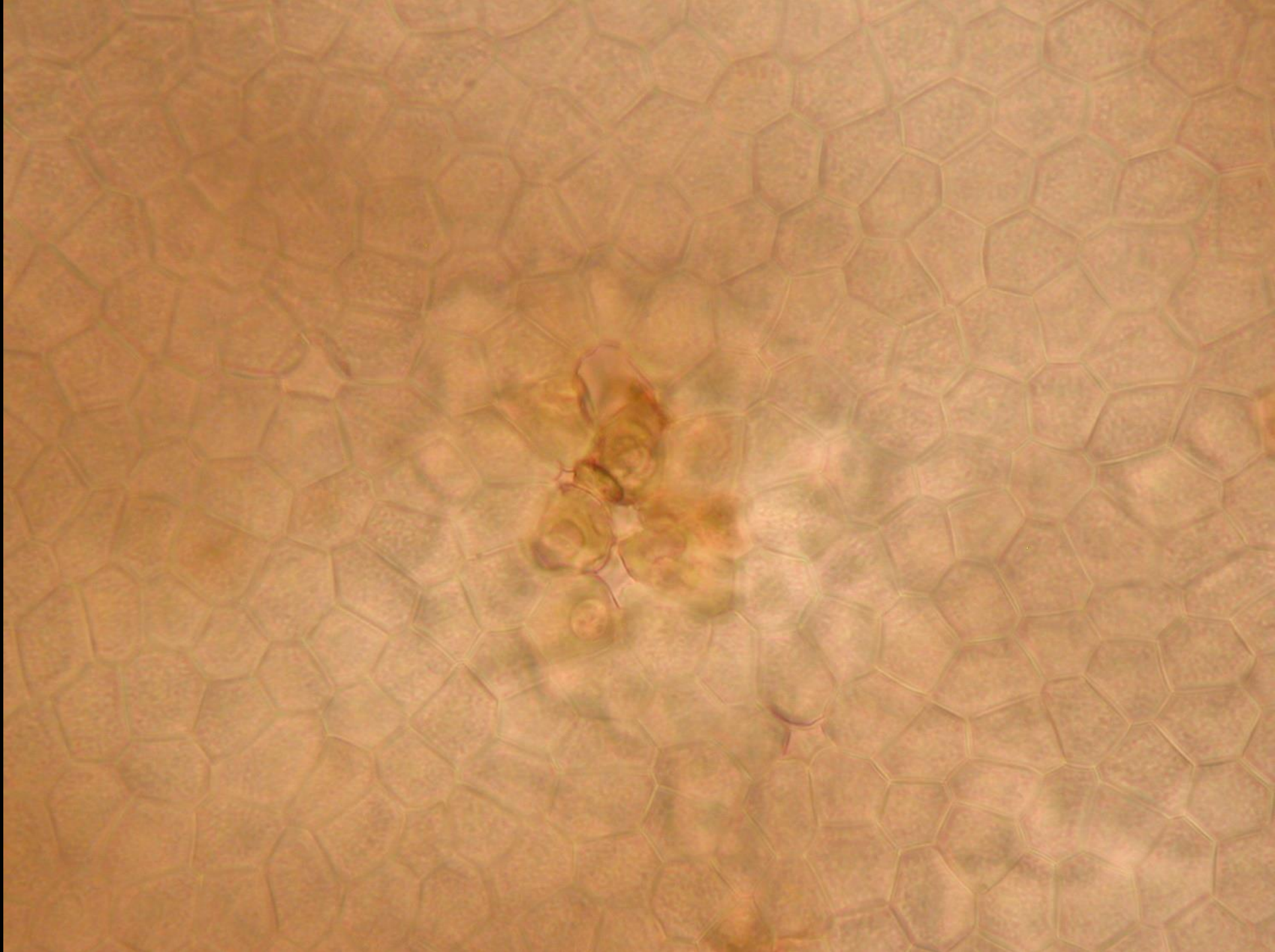
LSCM:
Bd culture



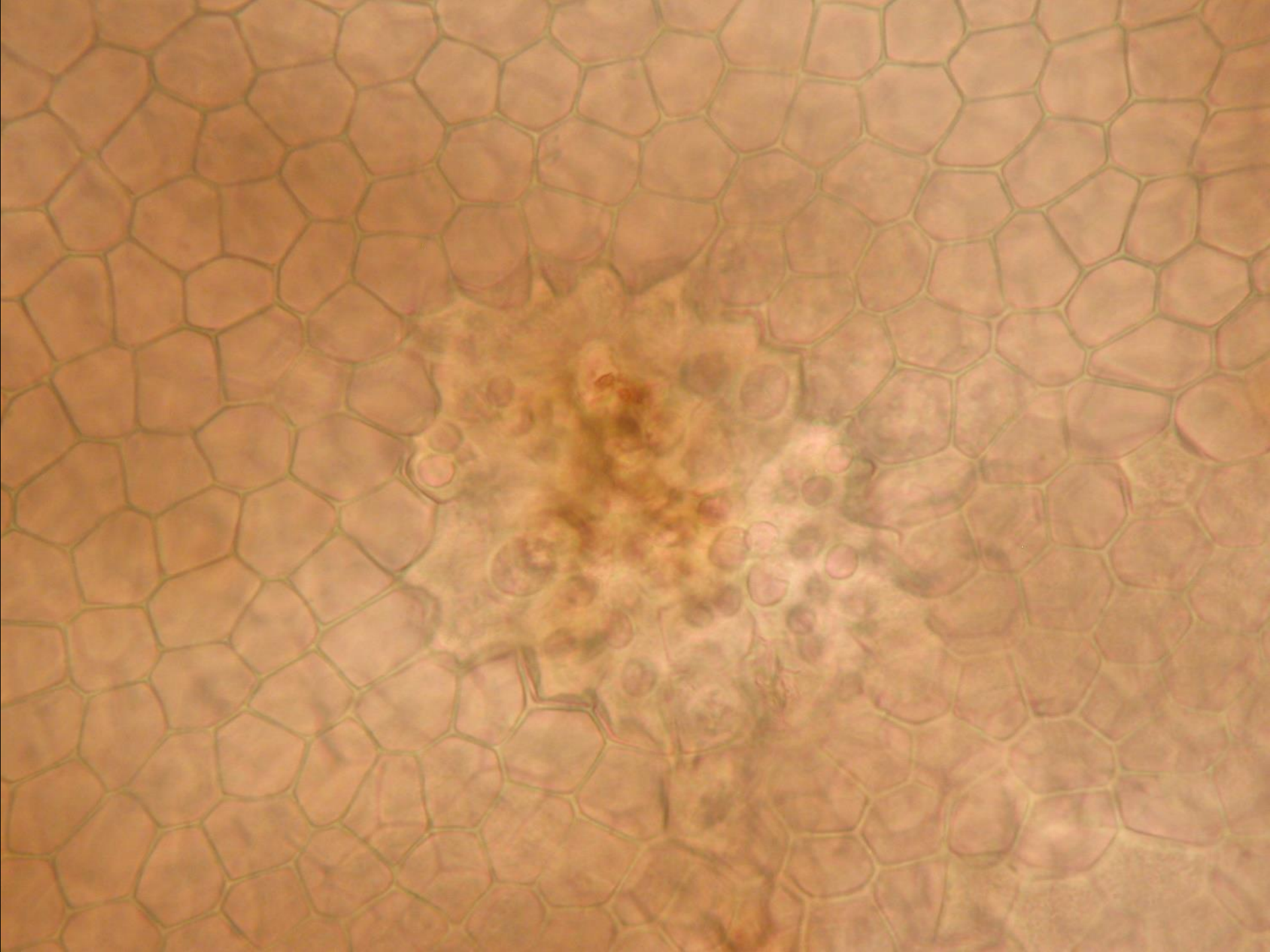
LM:
lesion 1/3



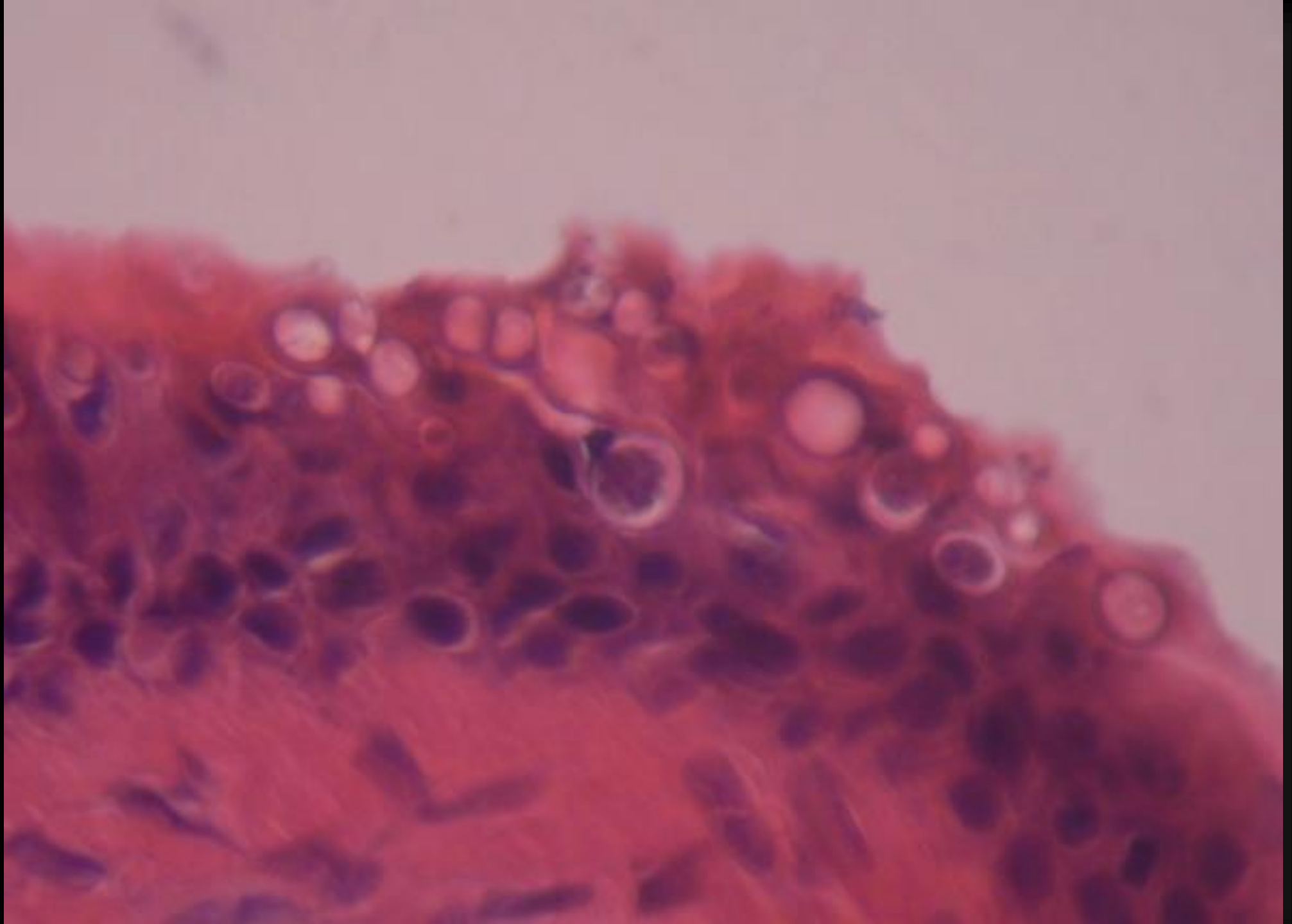
LM:
lesion 2/3



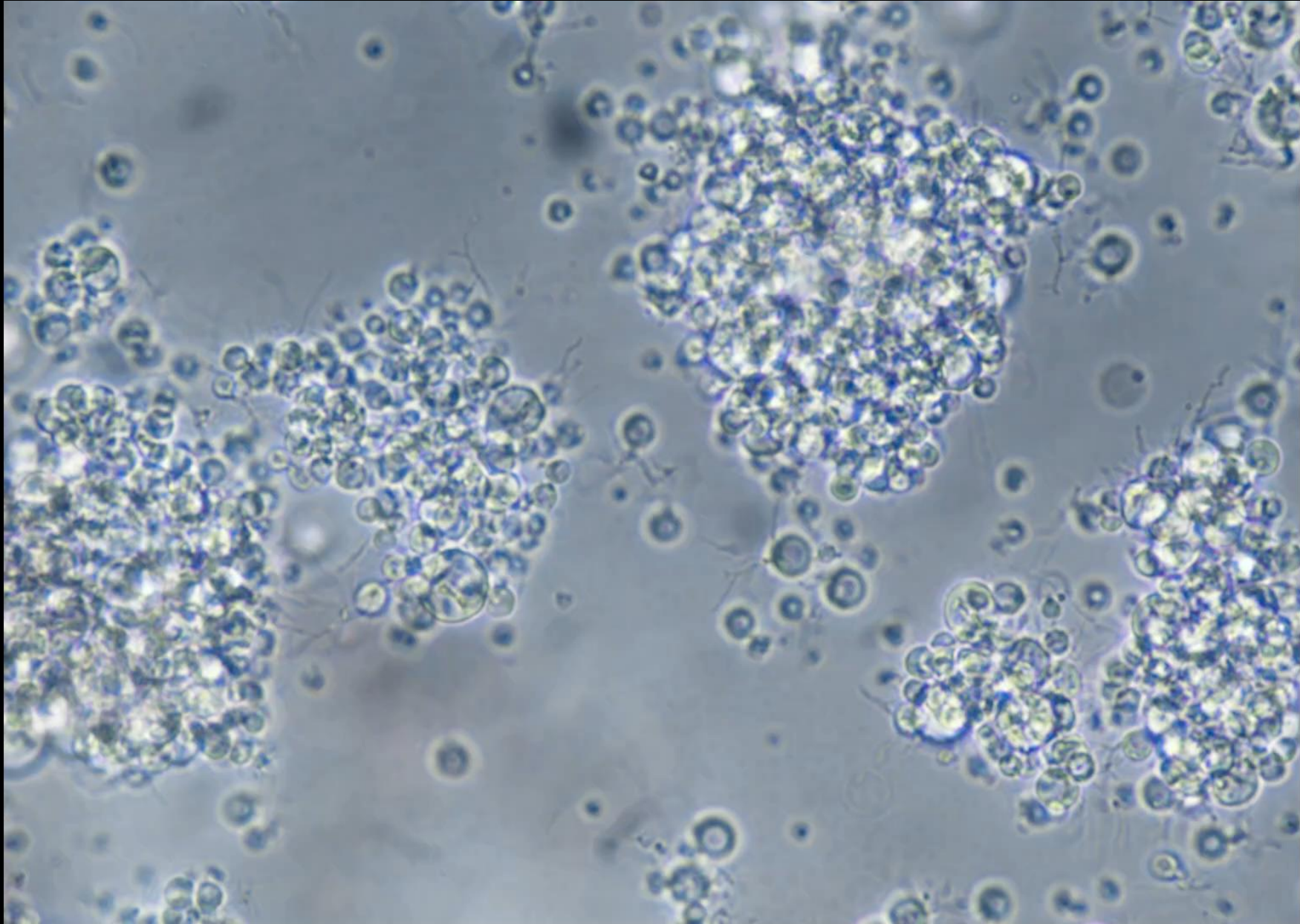
LM:
lesion 3/3

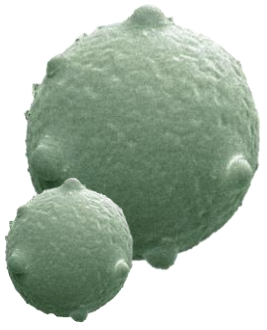


H&E:
pathology



Bd -
live culture





02

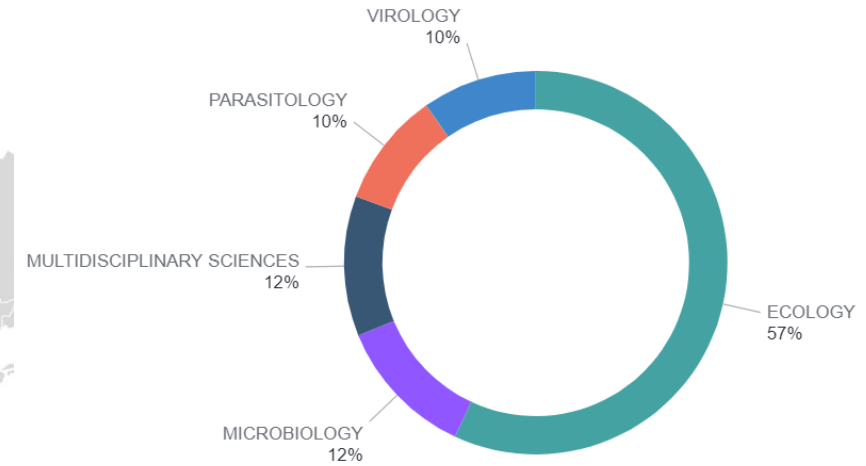
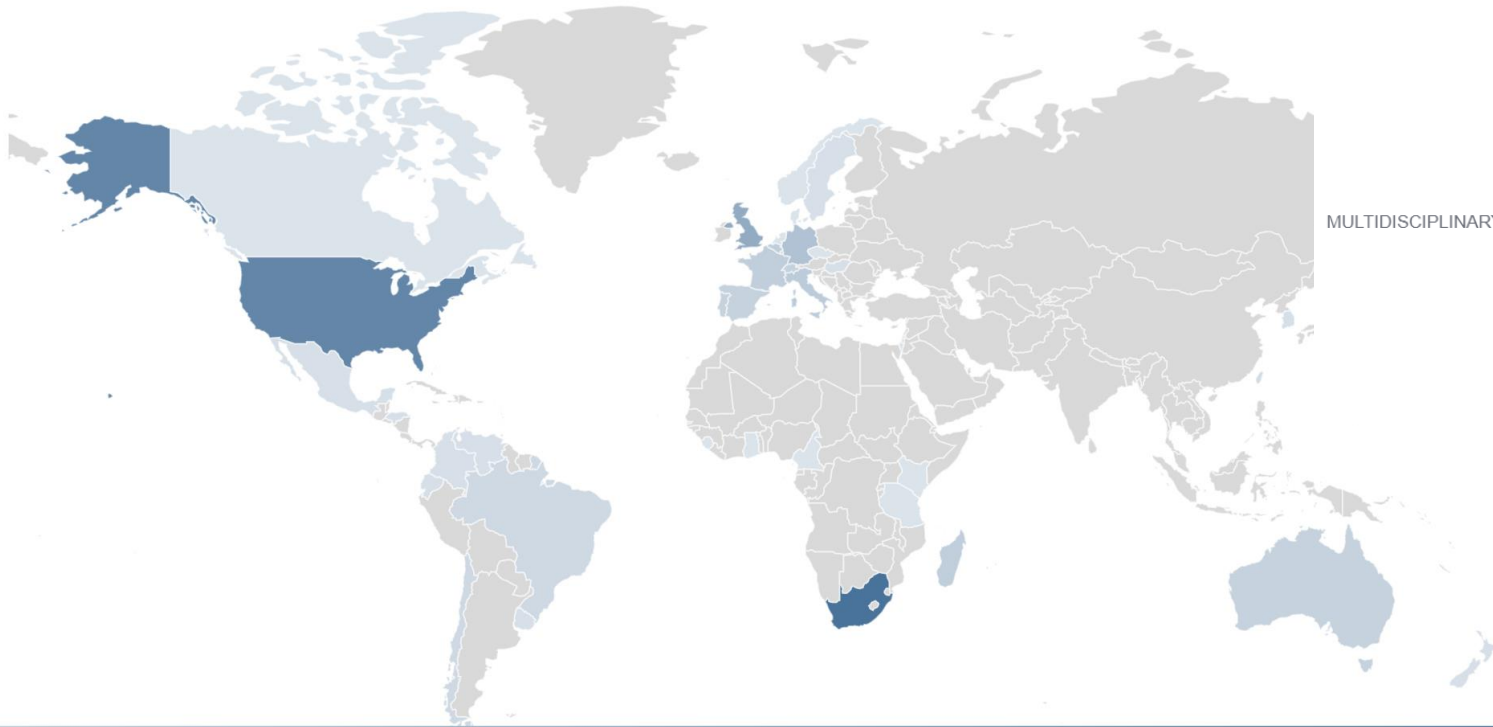
RESEARCH SCOPE

Overview through time and space



InCites: publication information

Geographic



Web of Science Documents



Indicators: Web of Science Documents. **Time Period:** 2003-2021. **Schema:** Web of Science. **Person Name or ID:** Weldon, Che, Weldon, C., Weldon, Che. **Dataset:** InCites Dataset
InCites dataset updated Aug 27, 2021. Includes Web of Science content indexed through Jul 31, 2021. Export Date: Sep 1, 2021.

Bd Africa distribution by country

HHL *Bd* positive

1368
records

HHL *Bd* negative

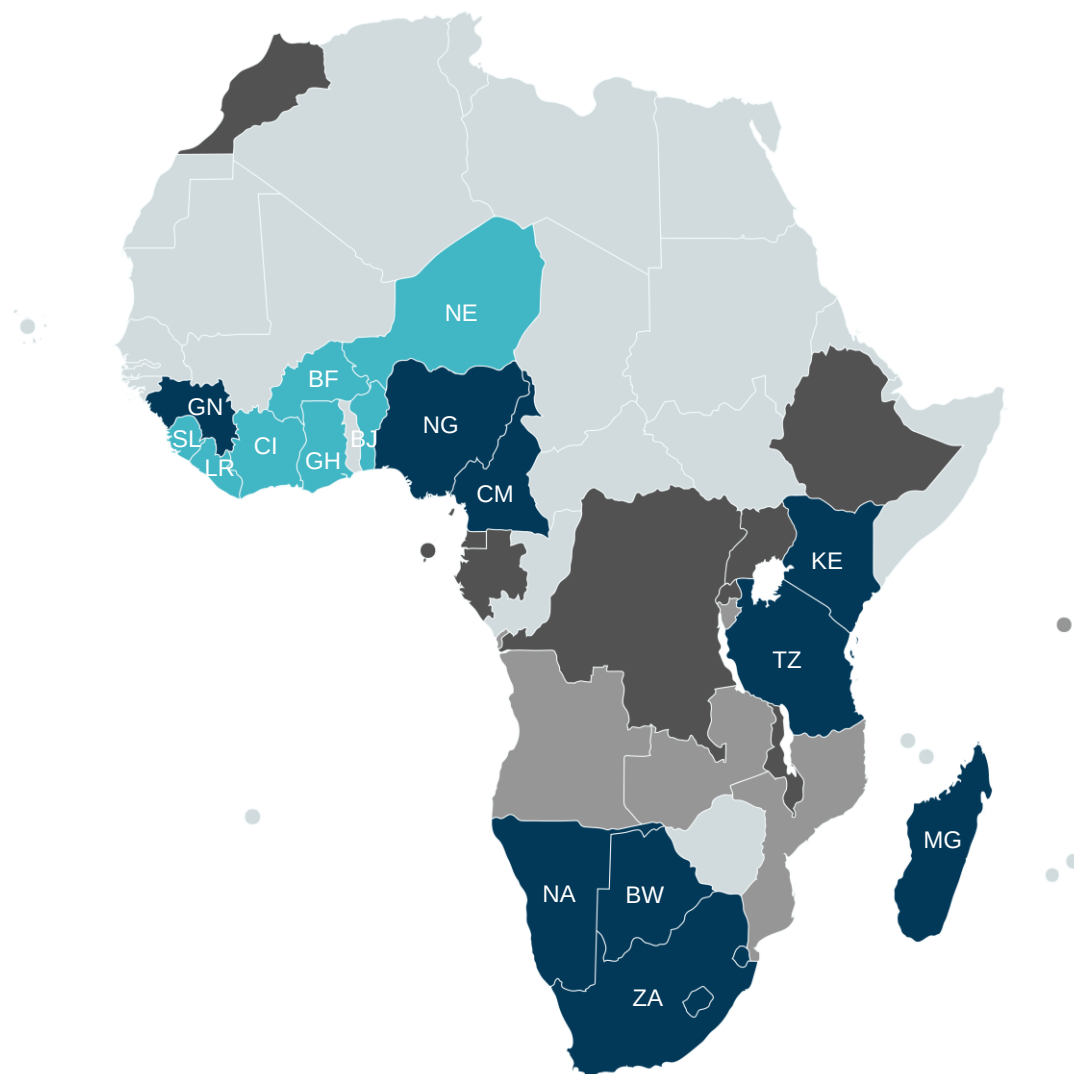
7522
records

Other *Bd* positive

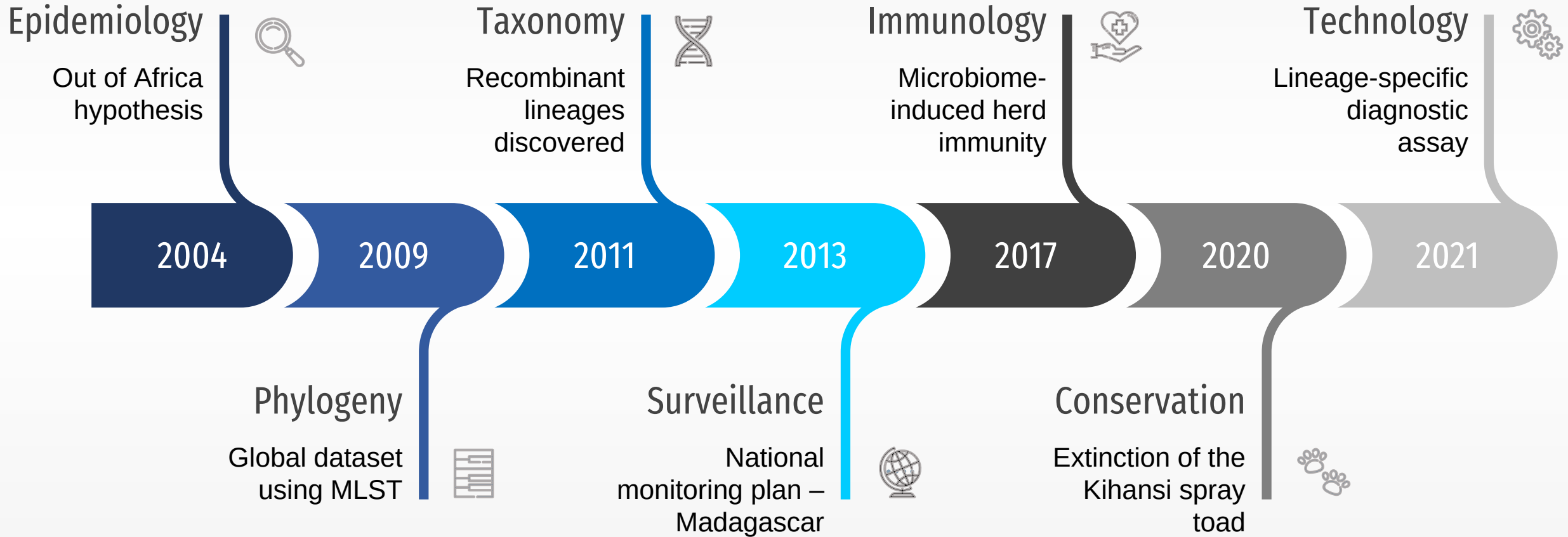
3323
records

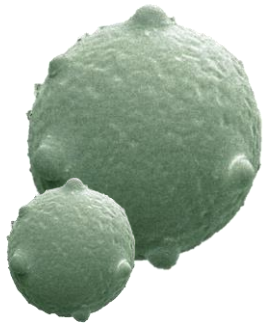
Other *Bd* negative

4151
records



Timeline of research firsts





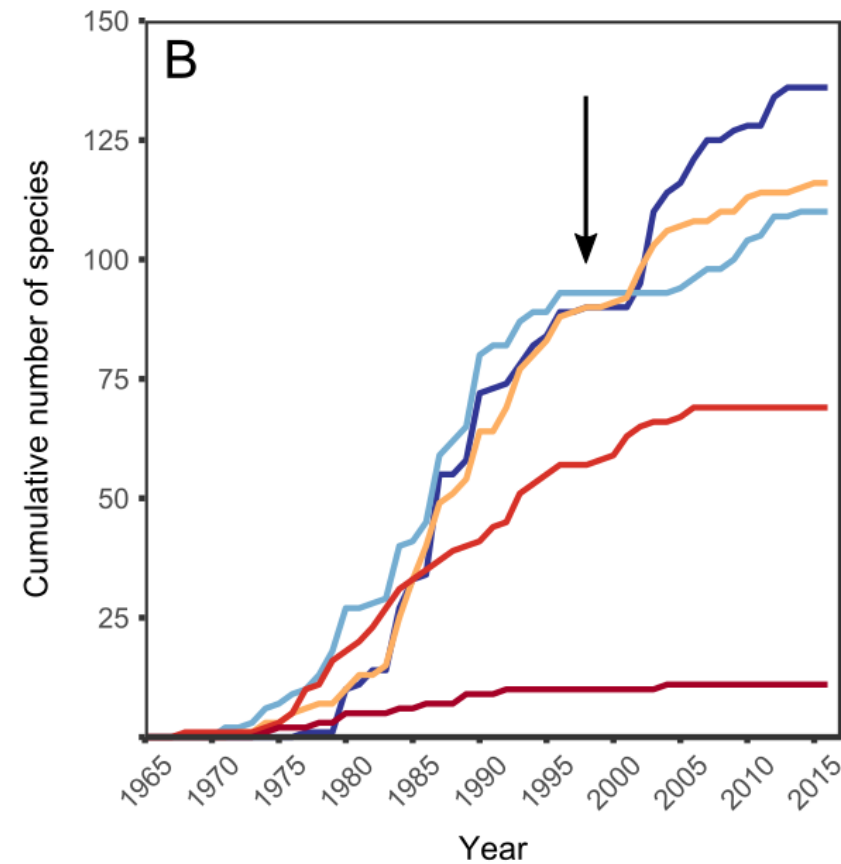
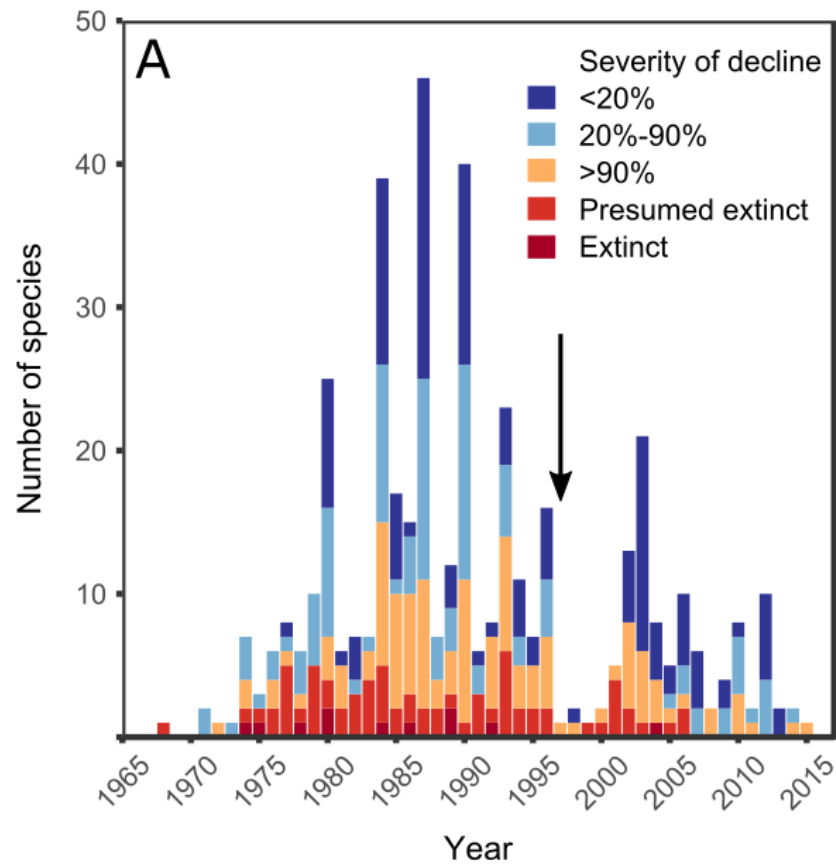
03

IMPORTANT FINDINGS

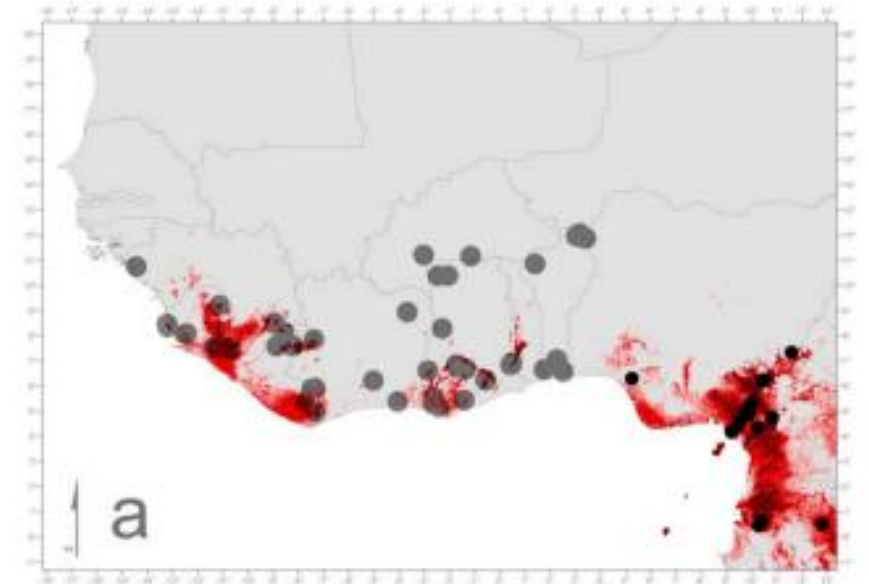
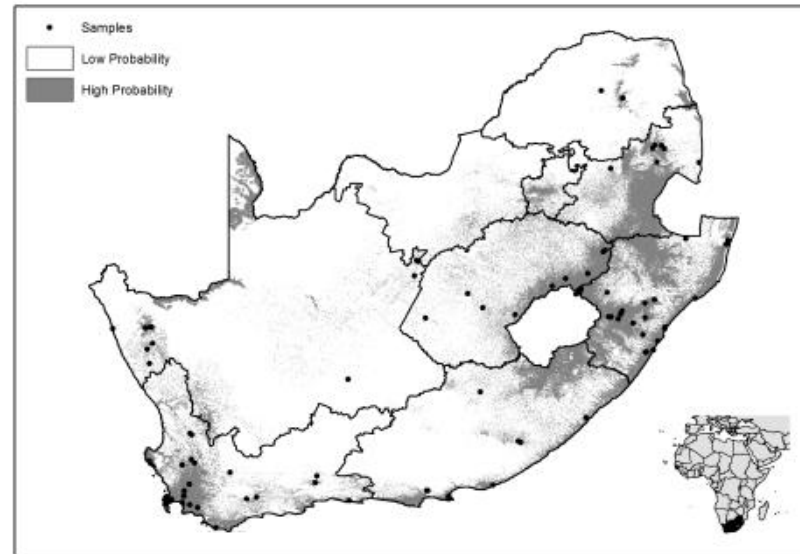
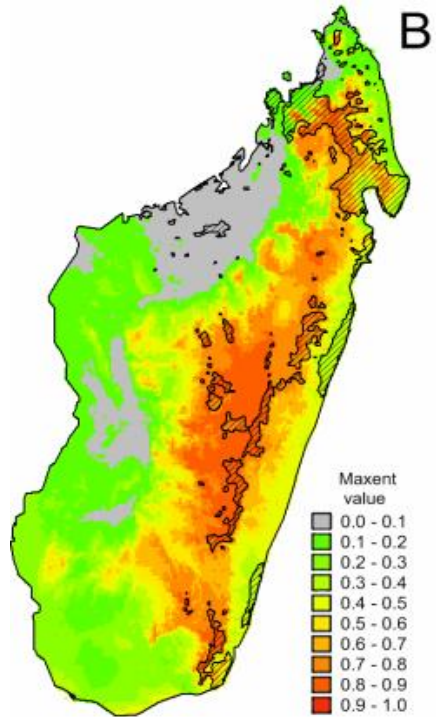
Surveillance, genetics and
conservation



Temporal pattern of declines



Disease surveillance



The epidemiology conundrum



Doherty-Bone et al. 2013 *Dis Aquat Org*



Weldon et al. 2013 *Ecohealth*



Weldon et al. 2004 *Emerg Infect Dis*

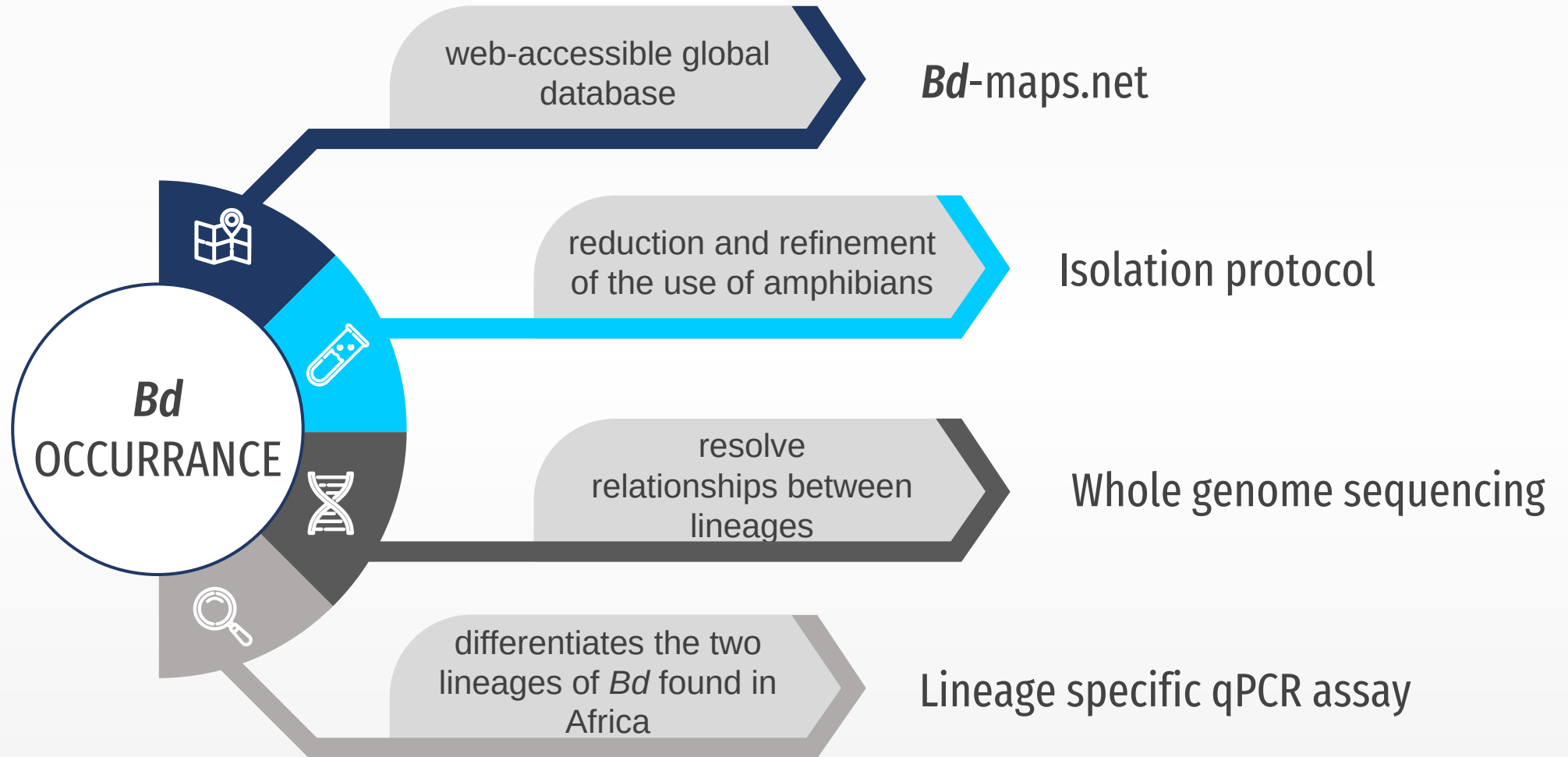


Griffiths et al. 2018 *IZME J*

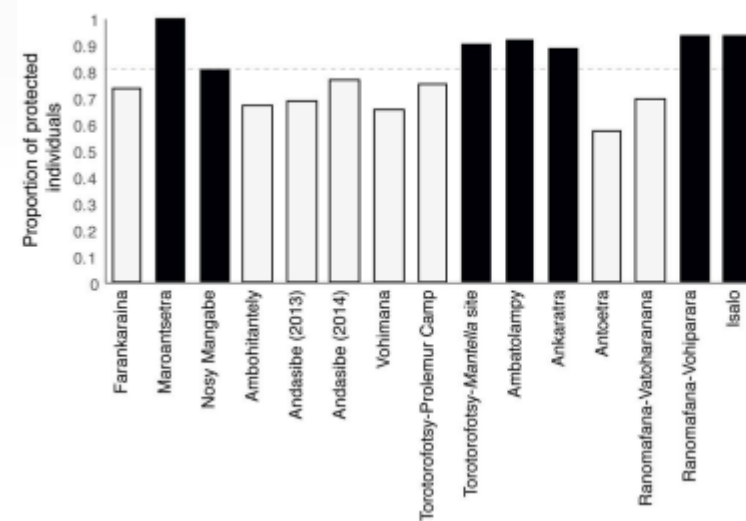
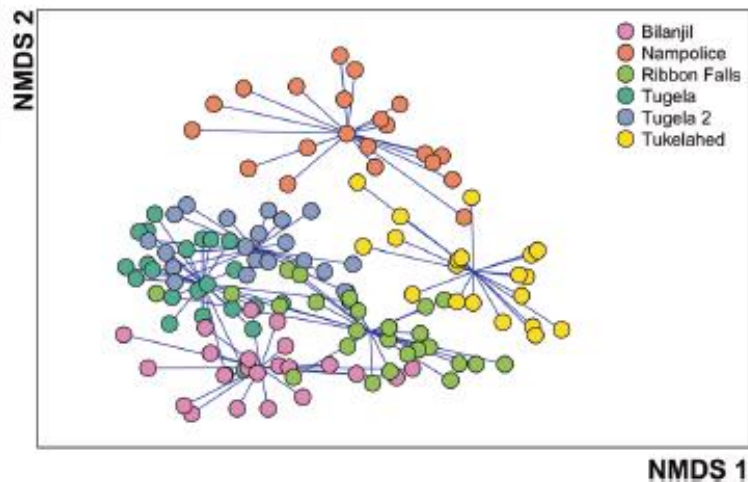
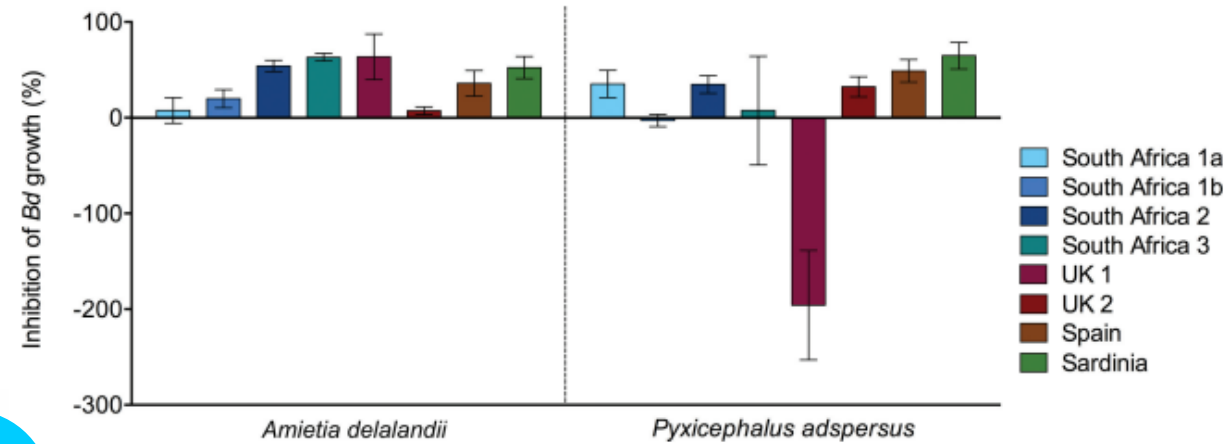
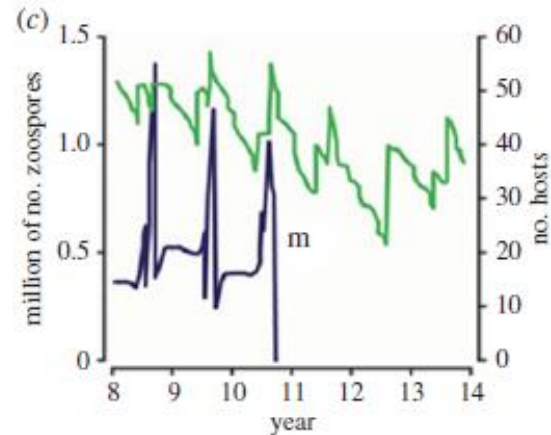
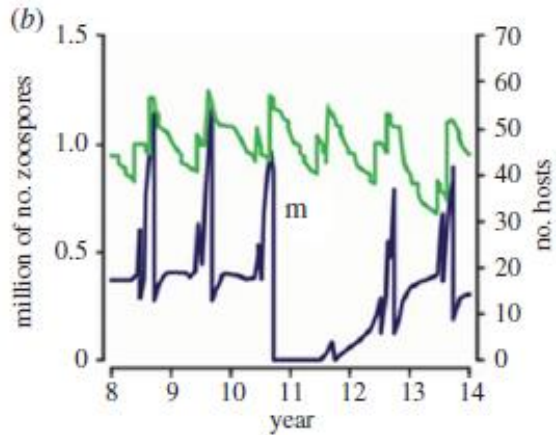


Weldon et al. 2020 *Afr J Herpetol*

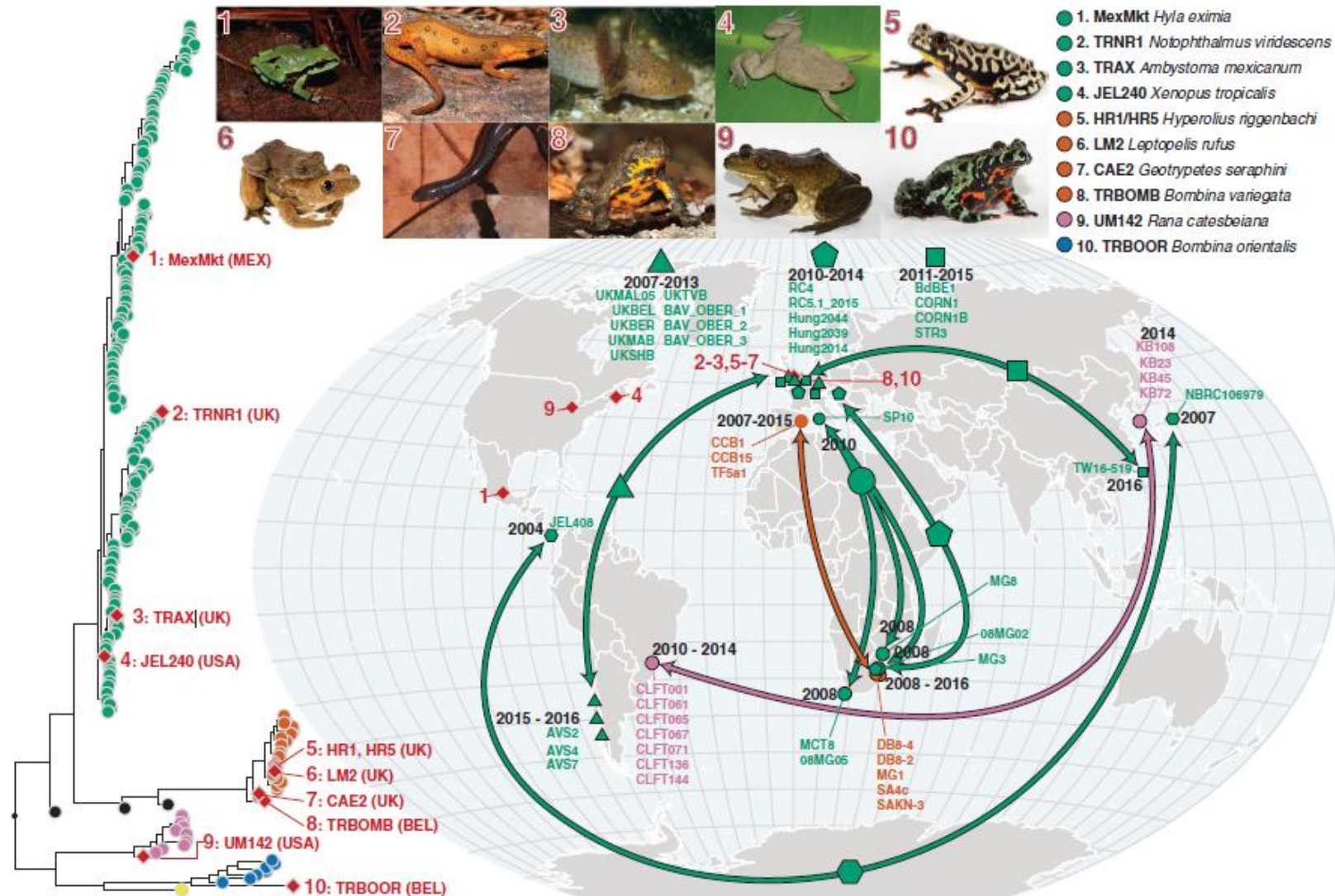
Research expansion following surveillance



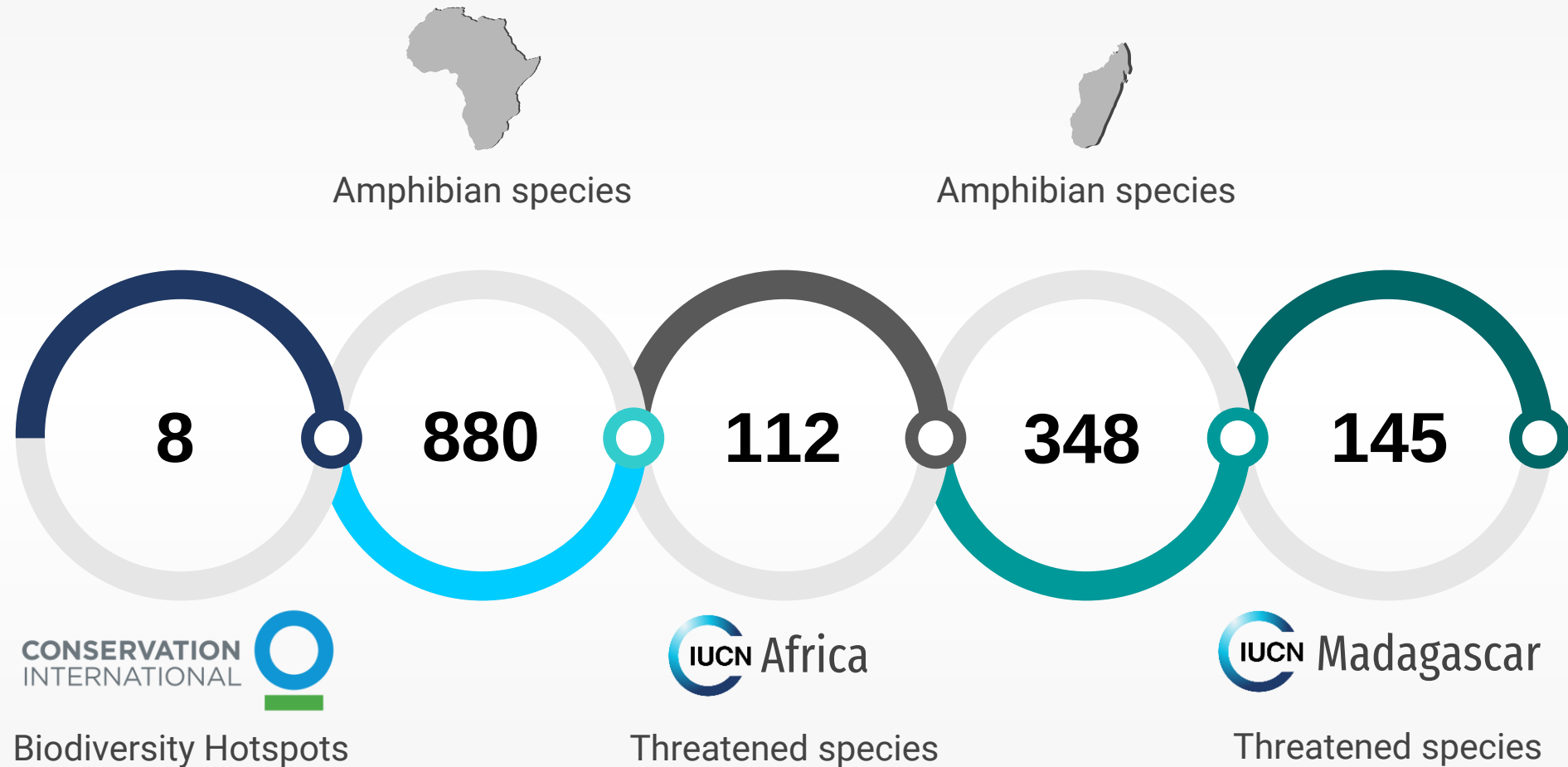
Mitigation by microbial function

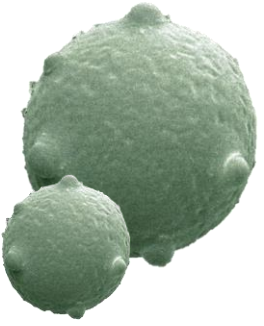


Disturbing conservation genetics



Realigning the hypothesis and research paradigm





04

ROAD AHEAD

Ongoing and future research



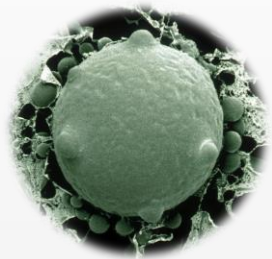
Ongoing and future research



DIAGNOSTIC ASSAYS

Non-invasive eDNA assay, and sensitive LAMP assay

2023



Bd ECOLOGY

Lineages recombine and form hybrids at “contact zones”

2021

2024

EPIDEMIOLOGY

genotype characterization by ancient DNA sequencing



2022

HOST-PATHOGEN DYNAMICS

Relationship: microbial community, *Bd* and host trophic assemblage



H H L
E E A
R A B
P L
T
H

THANK YOU

