

Rã-touro e biodiversidade: riscos e desafios para a gestão ambiental

Dra. Luisa P. Ribeiro

unesp 



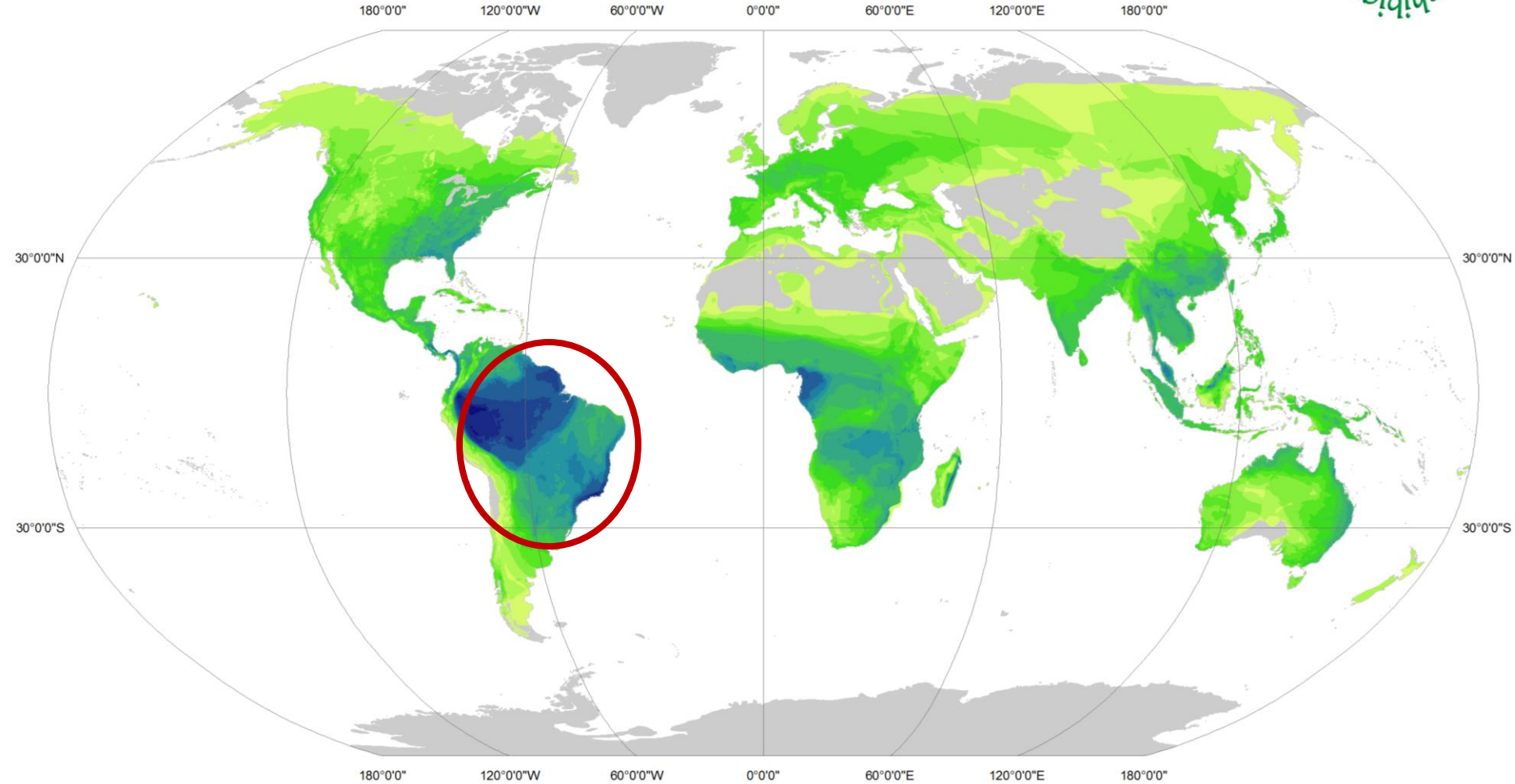
UNICAMP







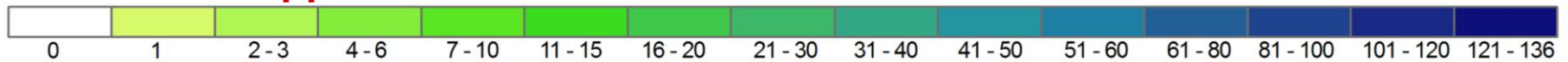
Diversidade Global de Anfíbios



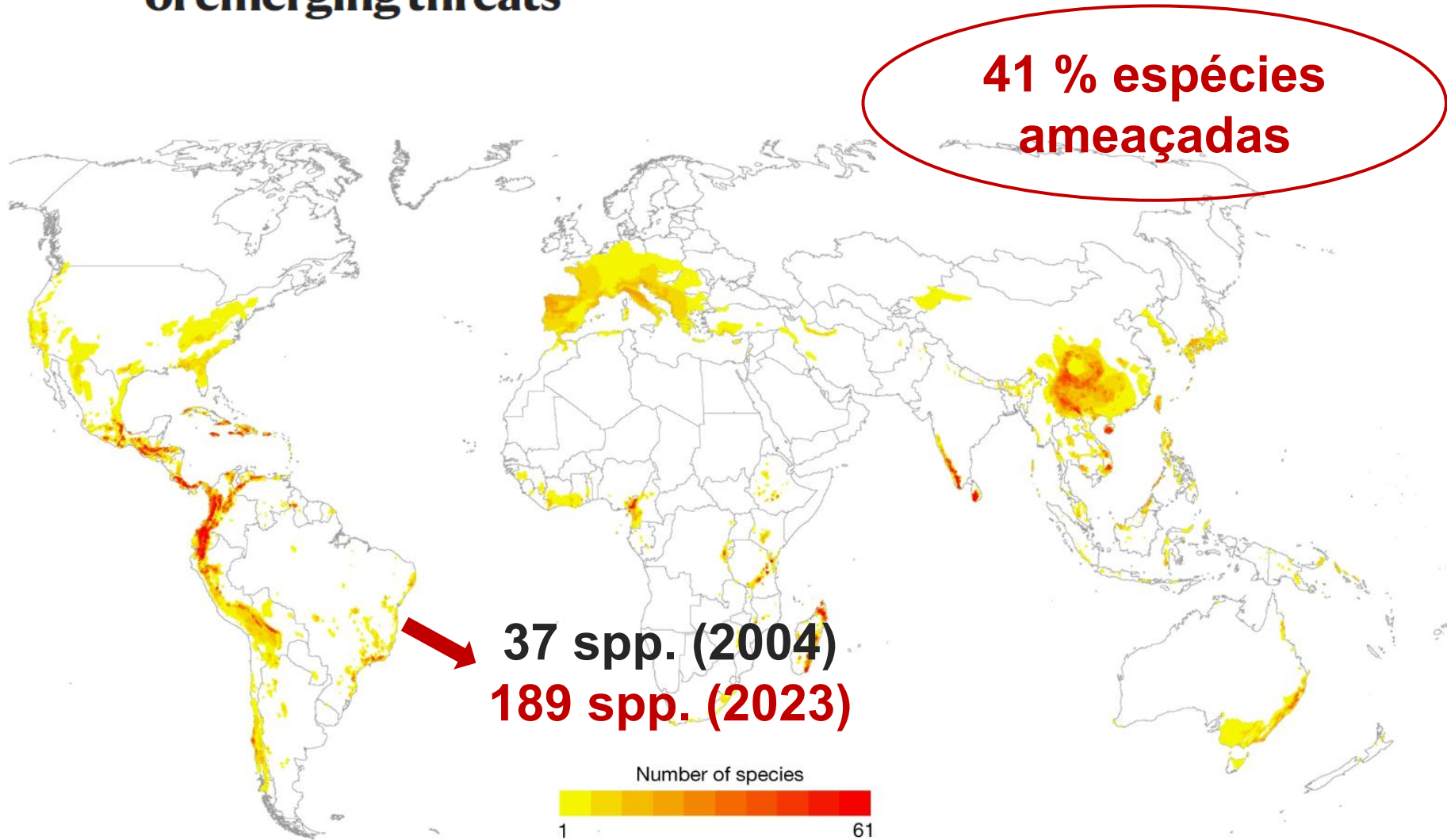
Mundo ~ 8743 spp.

Brasil ~ 1183 spp.

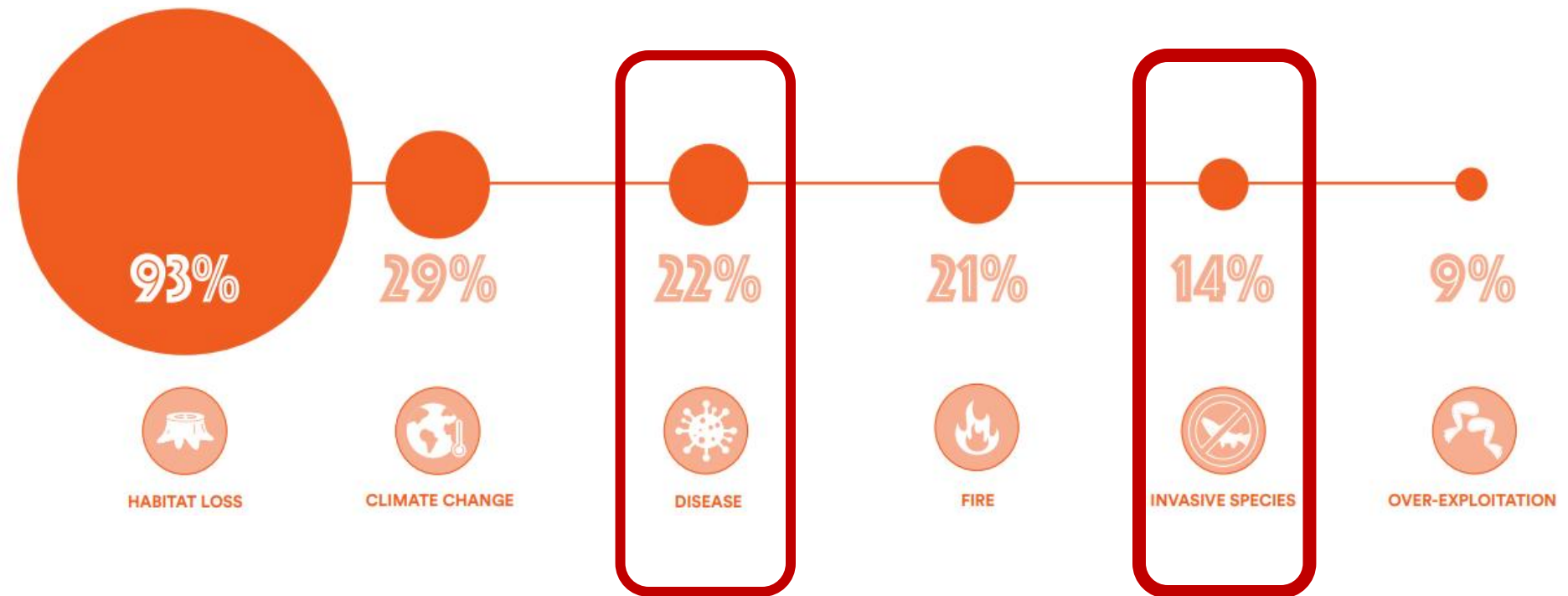
Number of Species



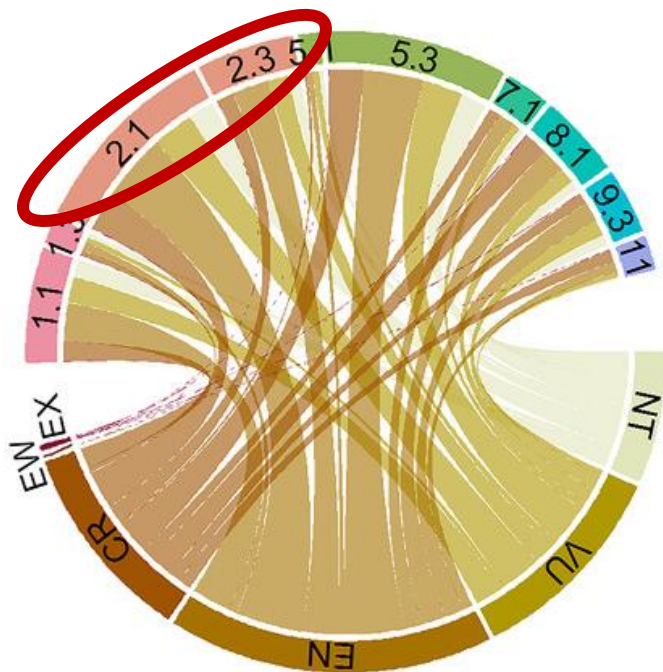
Ongoing declines for the world's amphibians in the face of emerging threats



Principais ameaças



Principais ameaças

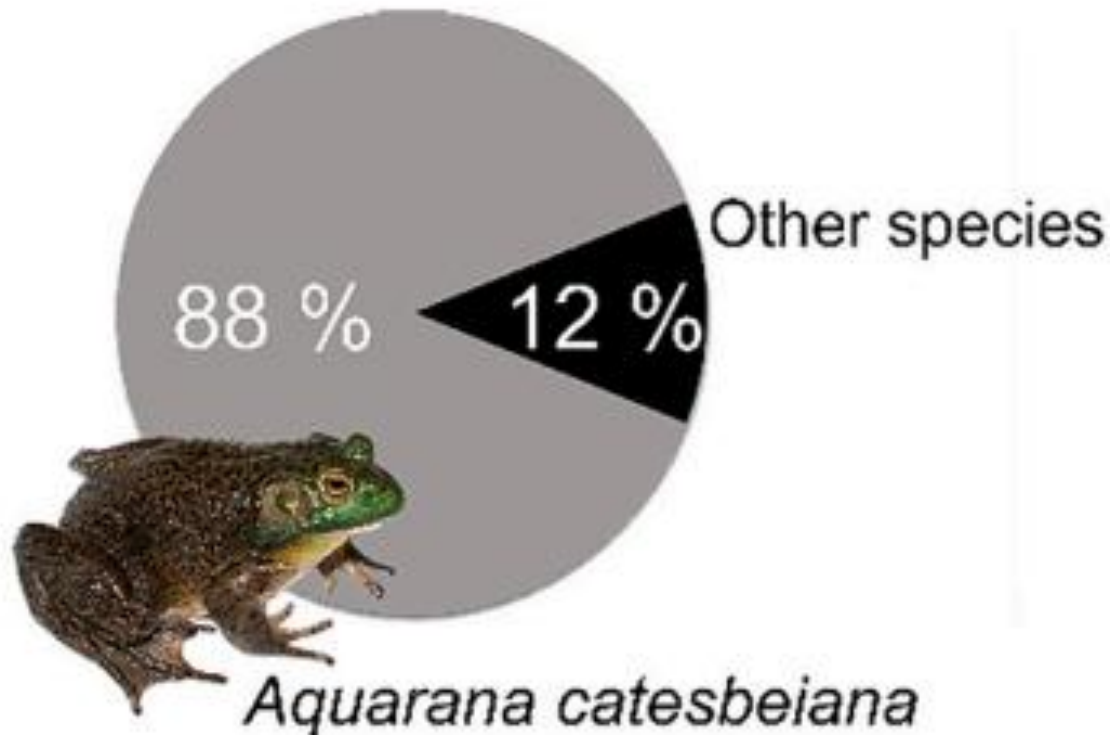


- 1. Residential & commercial development
- 2. Agriculture & aquaculture
- 3. Energy production & mining
- 4. Transportation & service corridors
- 5. Biological resource use
- 6. Human intrusions & disturbance
- 7. Natural system modifications
- 8. Invasive & other problematic species, genes & diseases
- 9. Pollution
- 10. Geological events
- 11. Climate change & severe weather
- 12. Other options

Consumo global de rãs - Ranicultura



Produção global de rãs



Aquarana catesbeiana (rã-touro)

 Nativa

 Introduzida

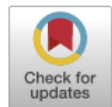
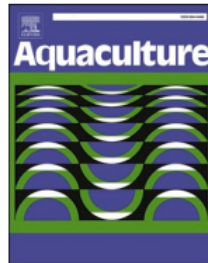




Contents lists available at [ScienceDirect](#)

Aquaculture

journal homepage: www.elsevier.com/locate/aquaculture



Review

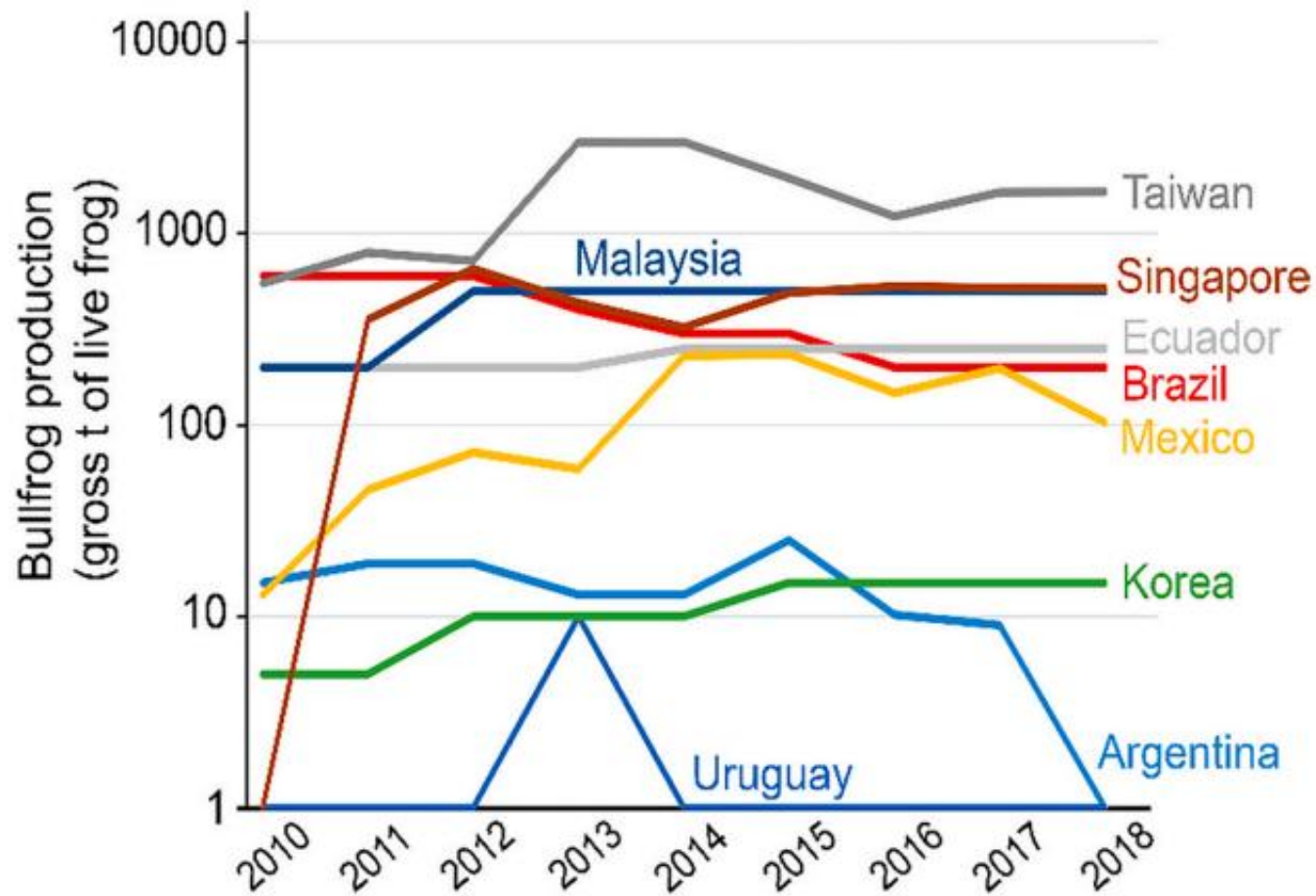
An overview of the Brazilian frog farming

Luisa P. Ribeiro^{a,b,*}, Luís Felipe Toledo^{a,b}

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^b Programa de Pós-Graduação em Ecologia, Departamento de Biologia Animal, Instituto de Biologia, Universidade Estadual de Campinas - UNICAMP, 13083-970 Campinas, SP, Brazil

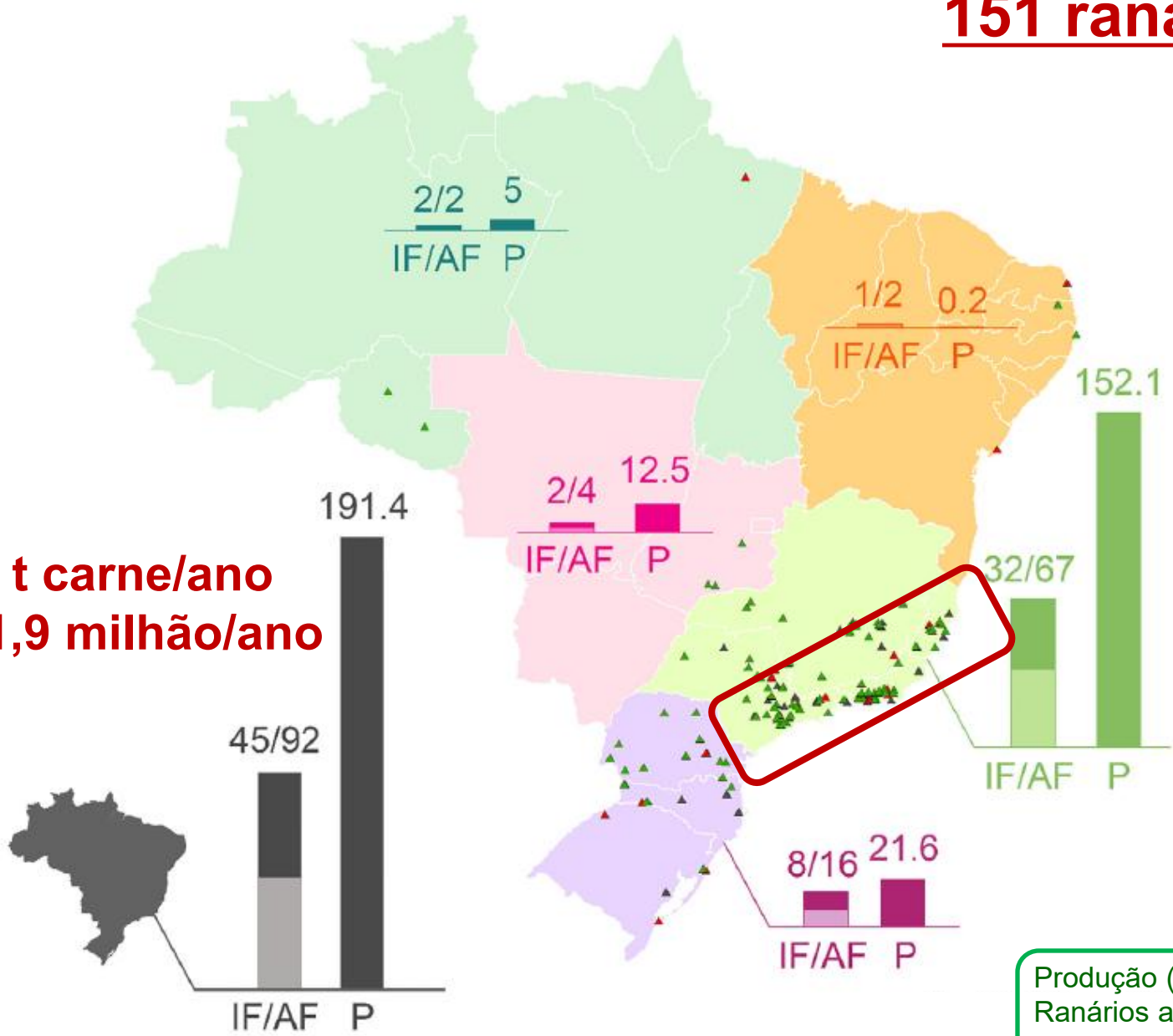
Produção global de rãs



Ranários do Brasil

151 ranários

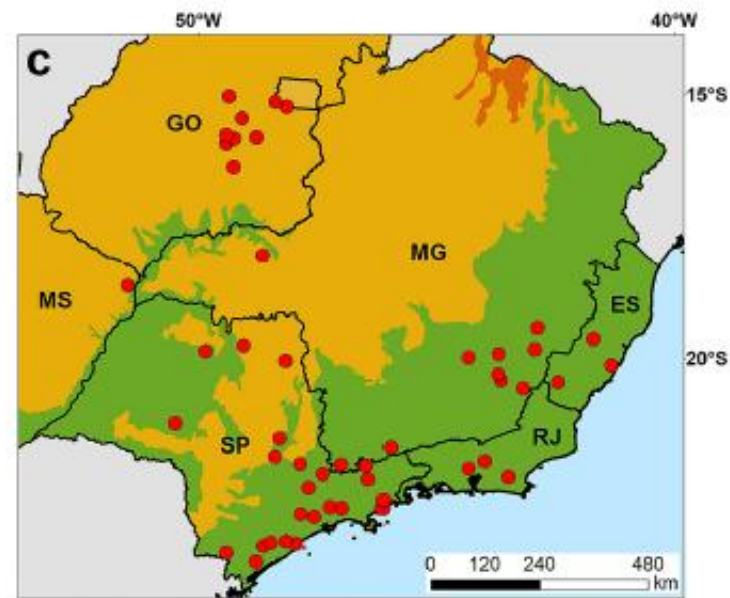
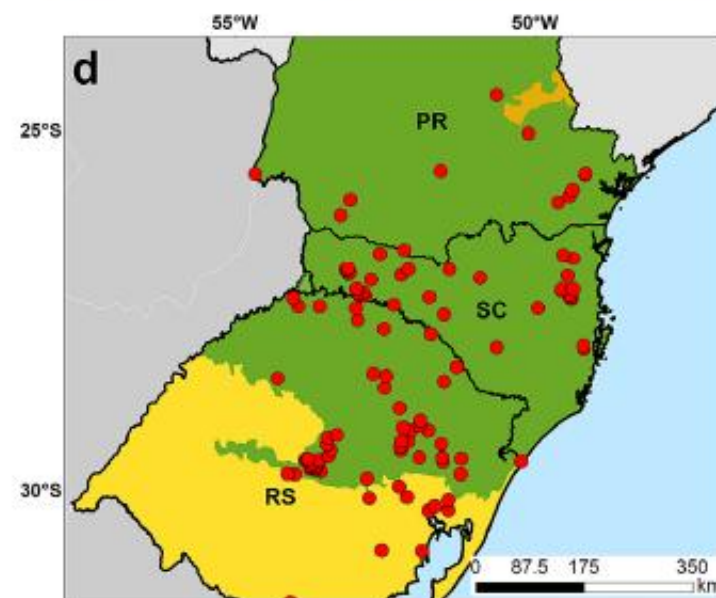
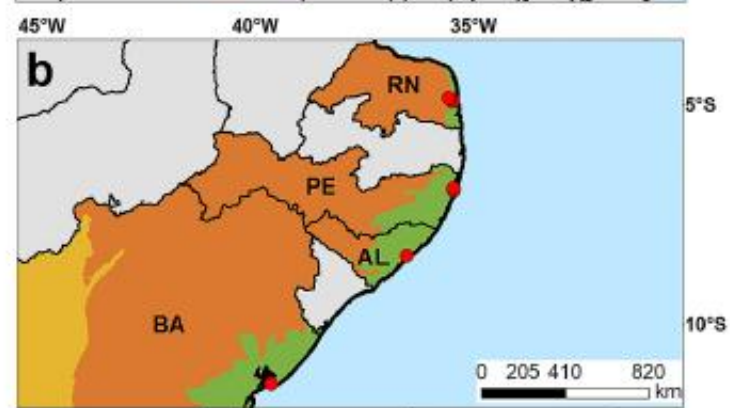
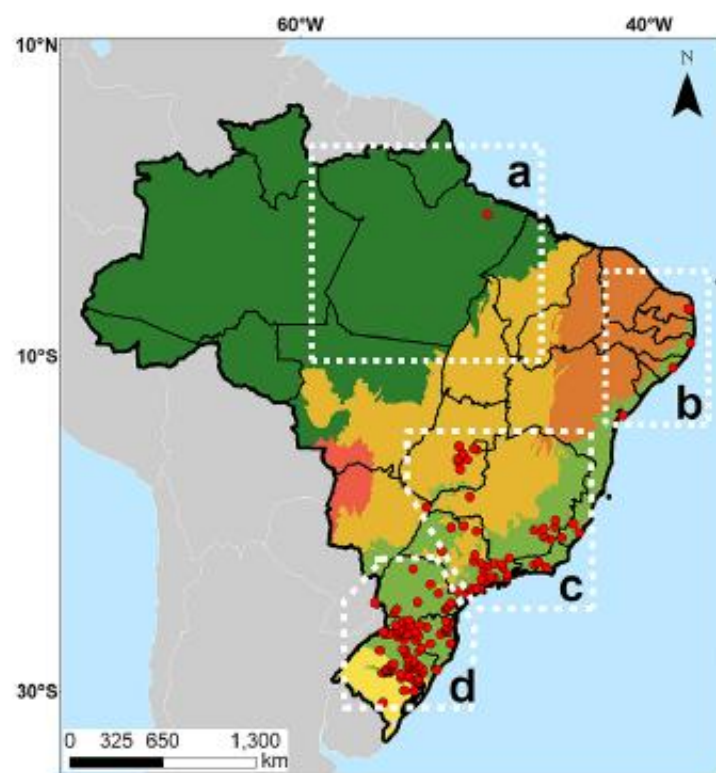
~ 190 t carne/ano
US\$ 1,9 milhão/ano



Produção (P)
Ranários ativos (AF)
Ranários com informação (IF)

Ranários do Brasil





100 piores invasoras do mundo!

[Home](#) > [Biological invaders in inland waters: Profiles, distribution, and threats](#) > Chapter

Problems and opportunities managing invasive Bullfrogs: is there any hope?

Chapter

pp 679–693 | [Cite this chapter](#)



- Declínios espécies nativas
- Competição
- Deslocamento de habitat
- Predação

Impactos

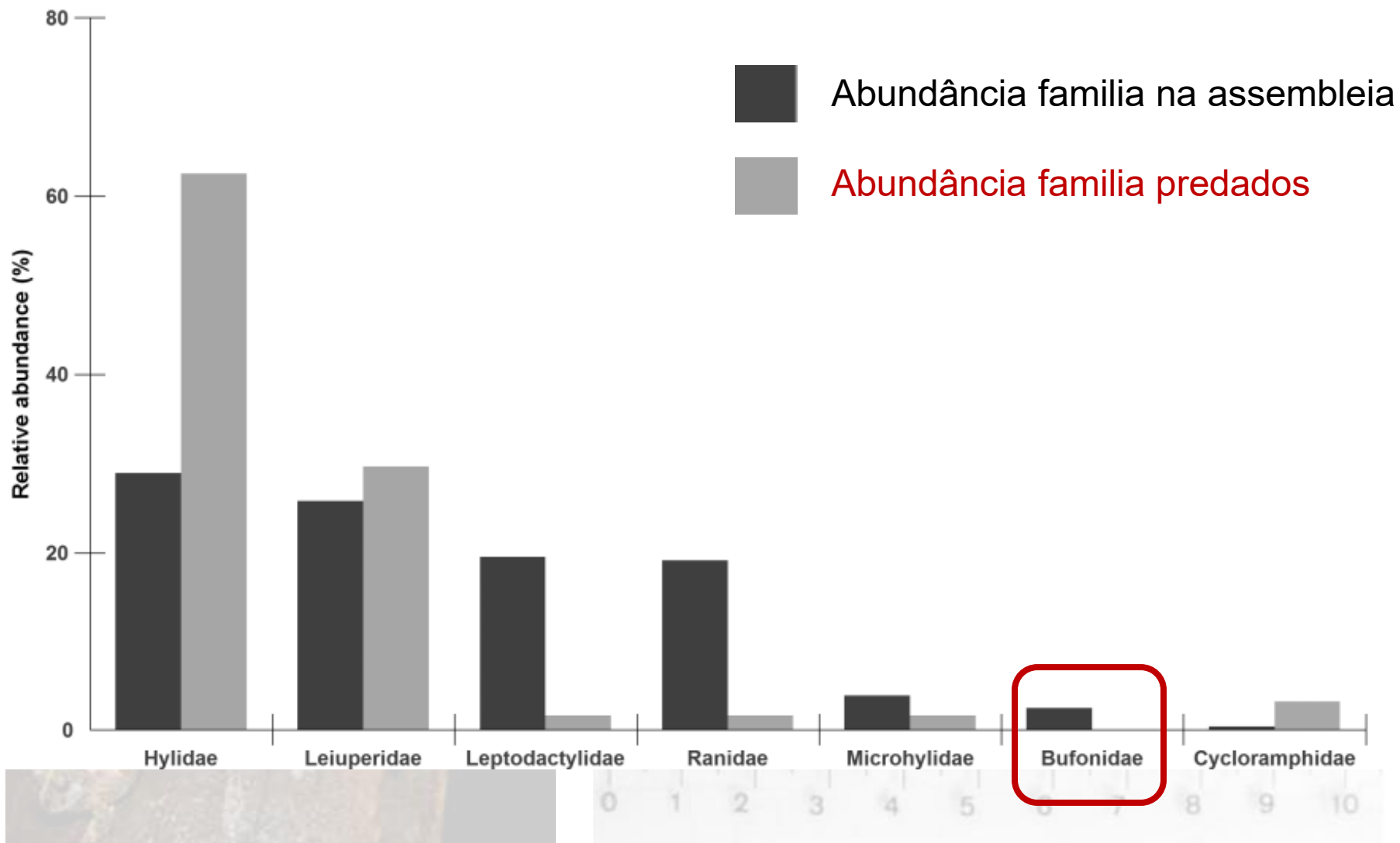


Predação

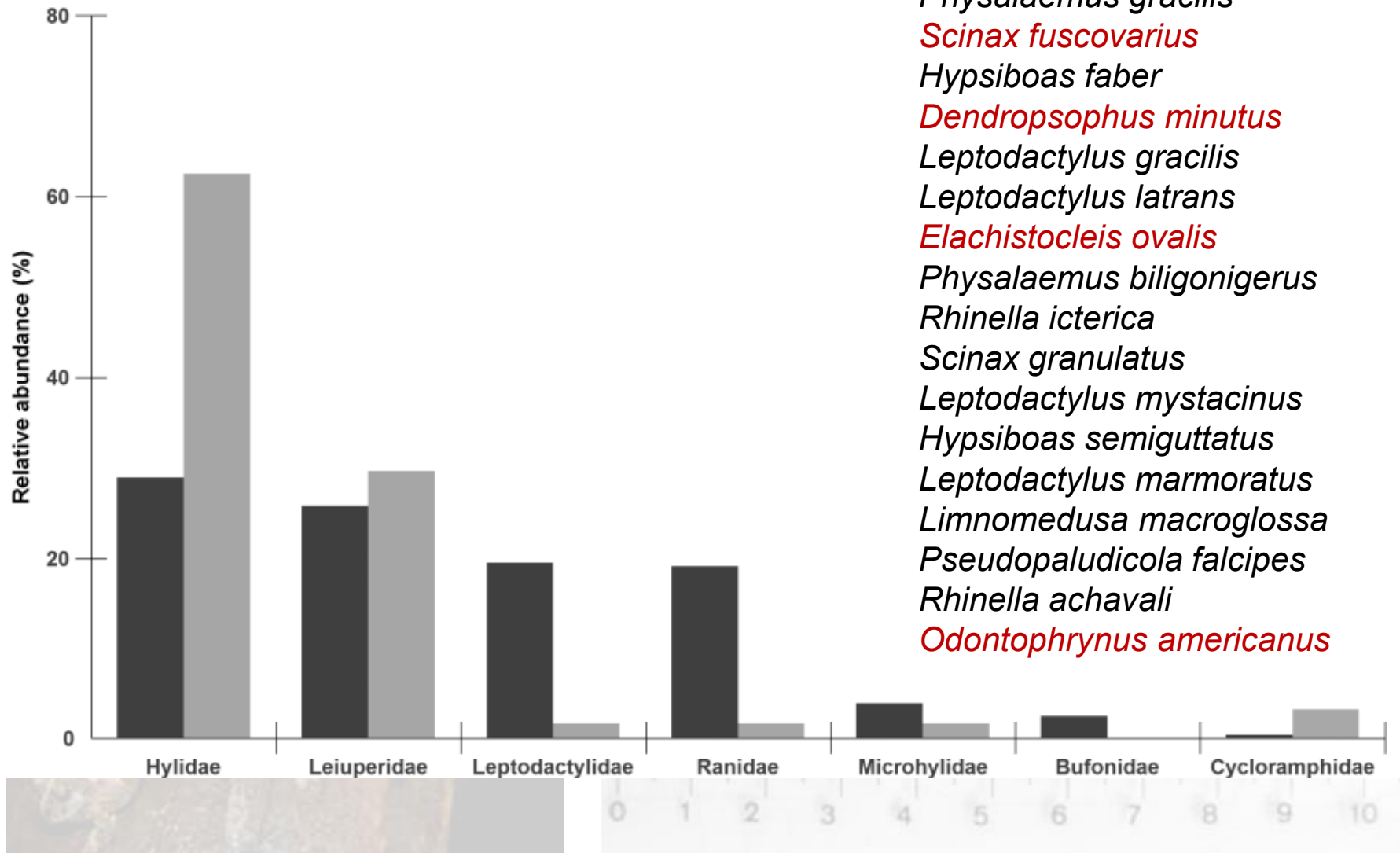


Adam & Pearl 2007, Camargo Filho *et al.* 2008, Leivas *et al.* 2013

Impactos



Impactos



A. catesbeiana
Physalaemus cuvieri
Hypsiboas pulchellus
Leptodactylus fuscus
Physalaemus gracilis
Scinax fuscovarius
Hypsiboas faber
Dendropsophus minutus
Leptodactylus gracilis
Leptodactylus latrans
Elachistocleis ovalis
Physalaemus biligonigerus
Rhinella icterica
Scinax granulatus
Leptodactylus mystacinus
Hypsiboas semiguttatus
Leptodactylus marmoratus
Limnomedusa macroglossa
Pseudopaludicola falcipes
Rhinella achavali
Odontophrynus americanus

Impactos

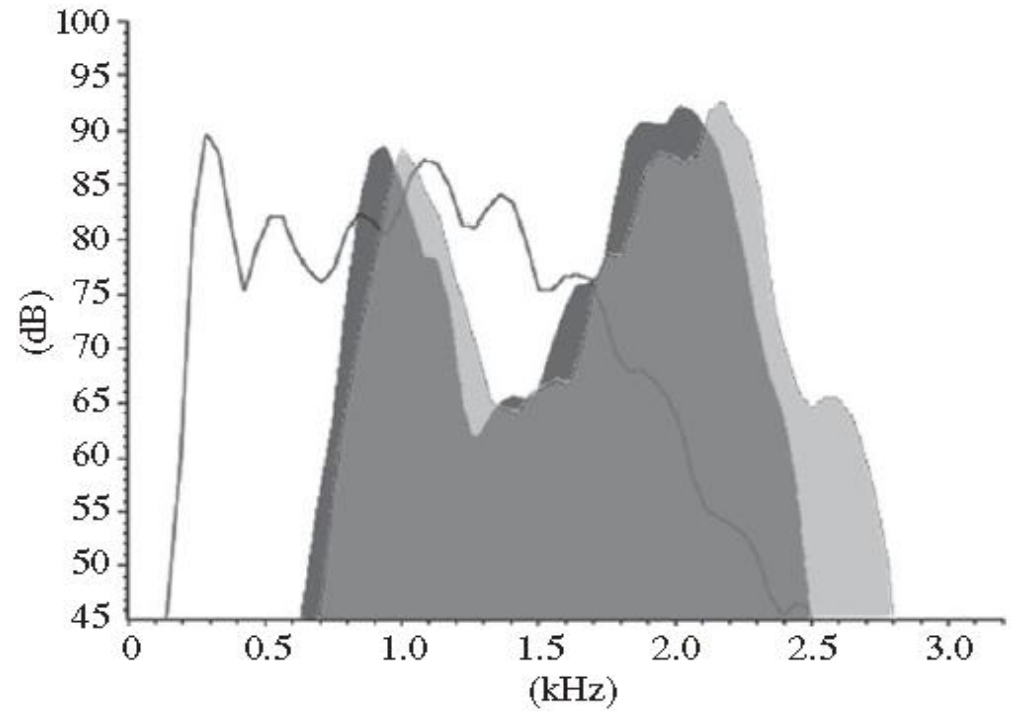
Boana albomarginata



Aquarana catesbeiana

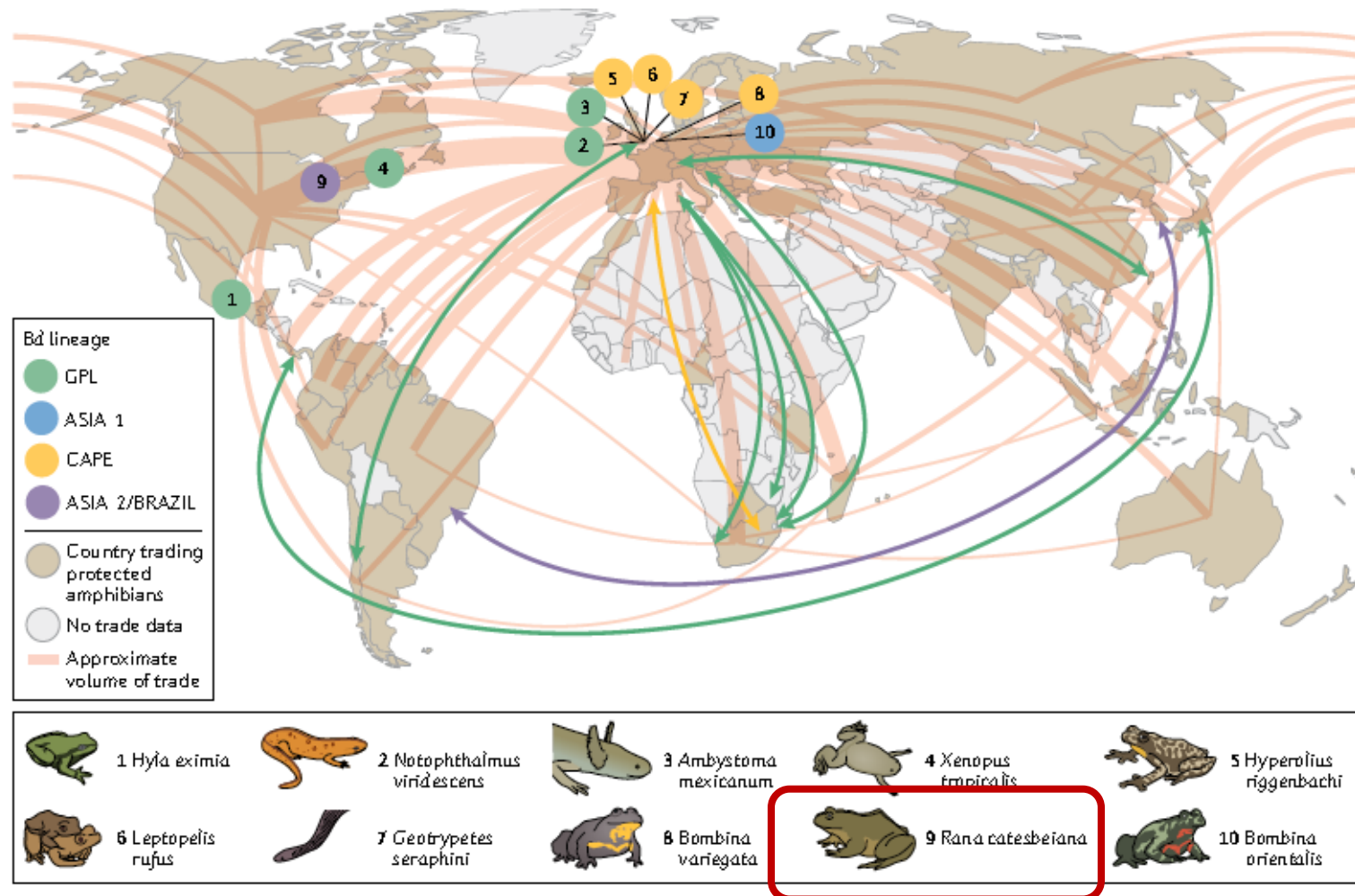


Interferência acústica

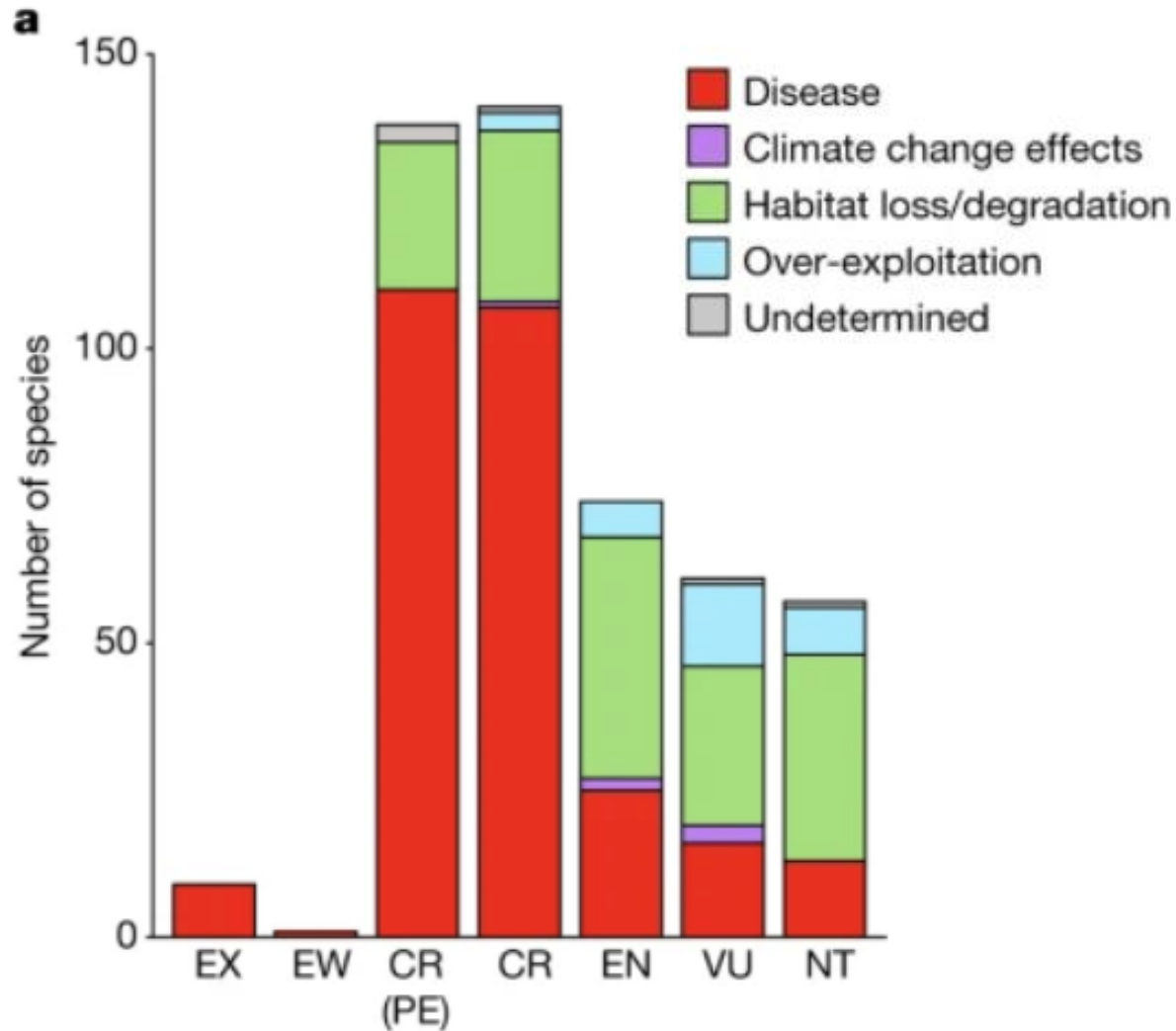


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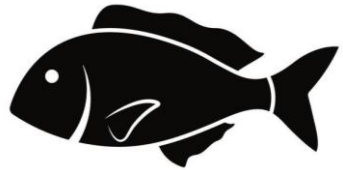
Reservatório e vetor de patógenos



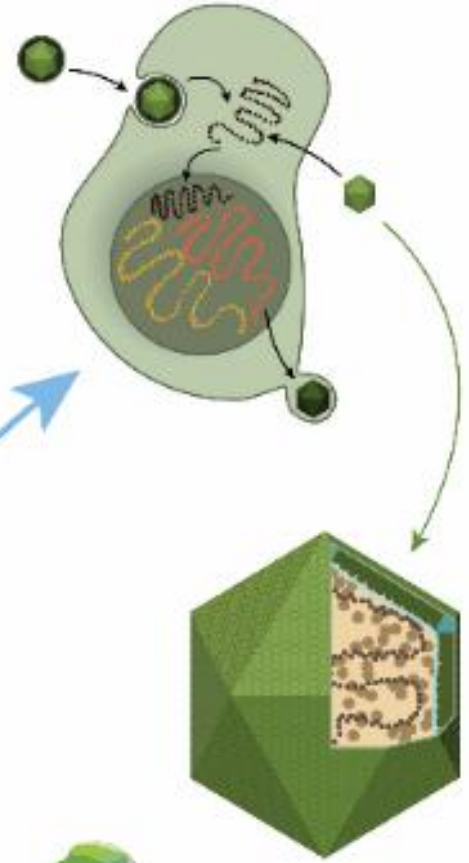
Ongoing declines for the world's amphibians in the face of emerging threats



Principais patógenos



Rv

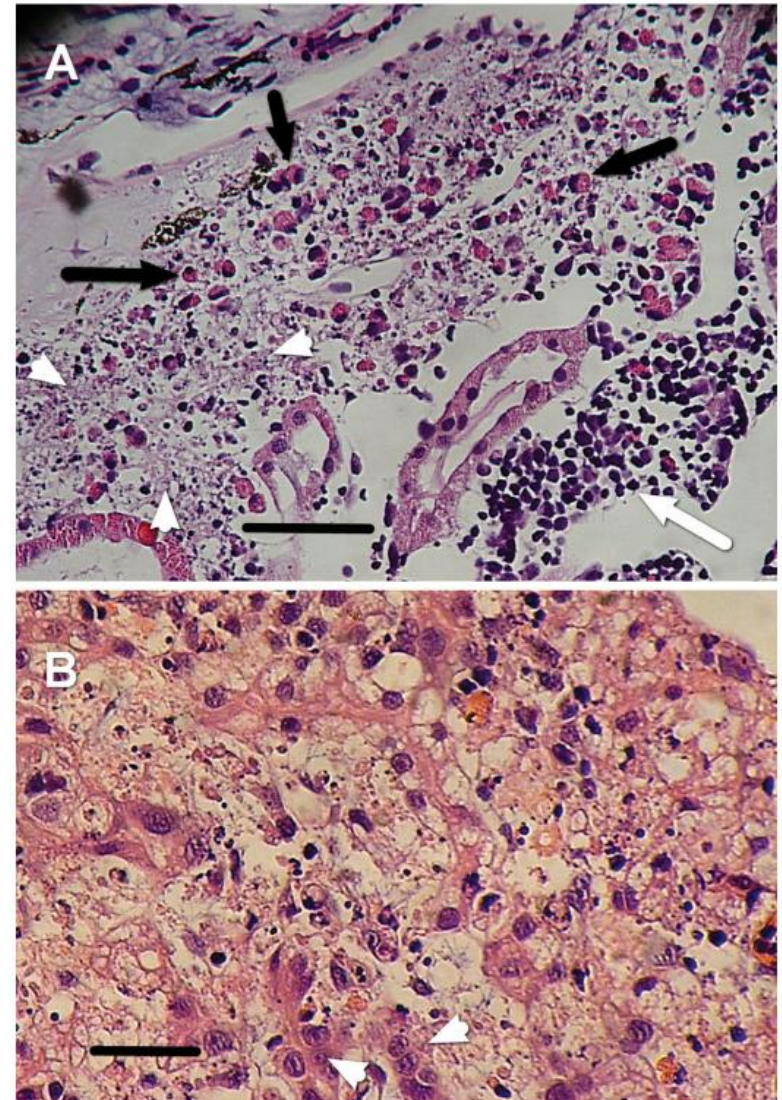


Ranavirus

Rv em ranários



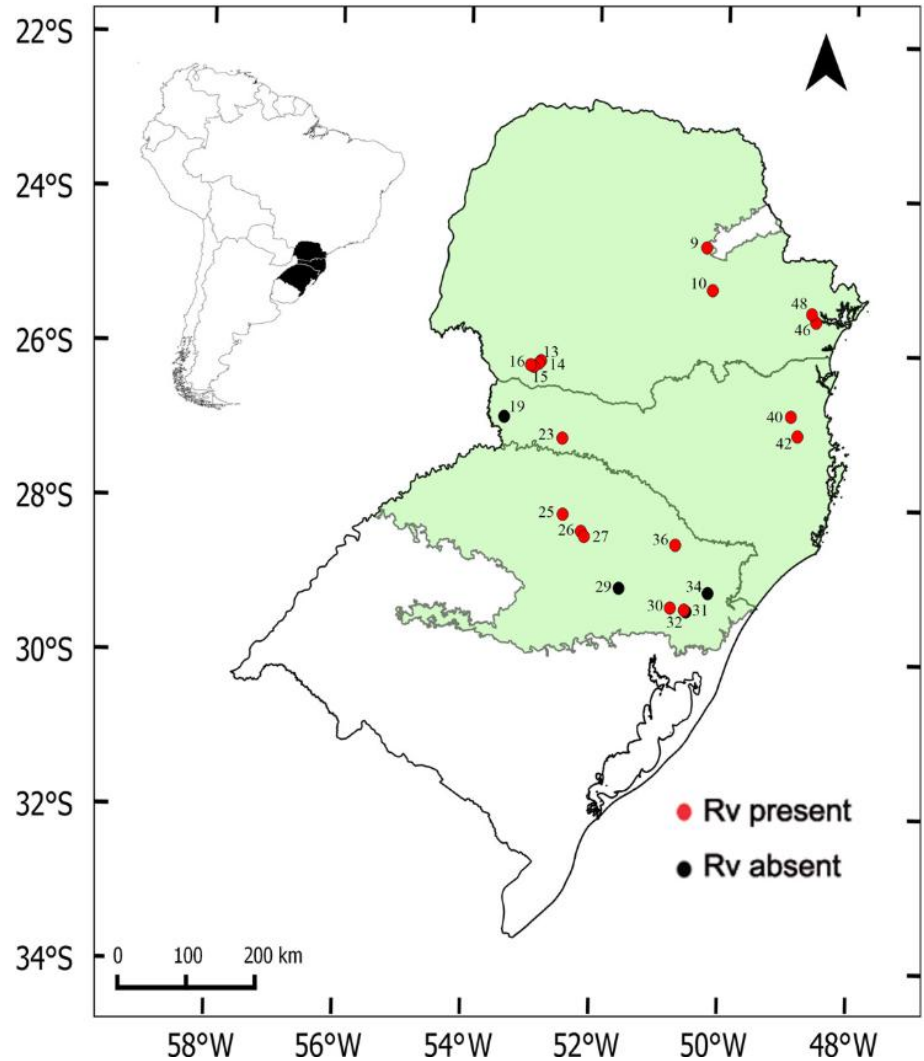
Eventos de mortalidade em massa



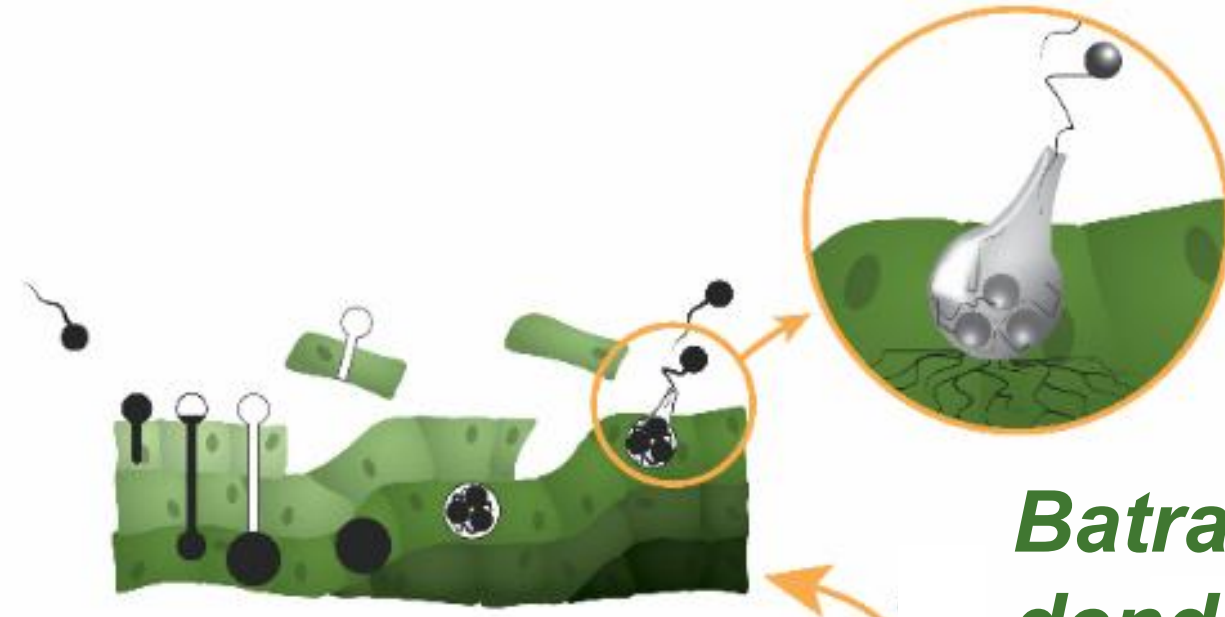


38 % Rv anfíbios
33,3 % Rv peixes
5,5 % Coinfecção com Bd

Rv na natureza



Principais patógenos



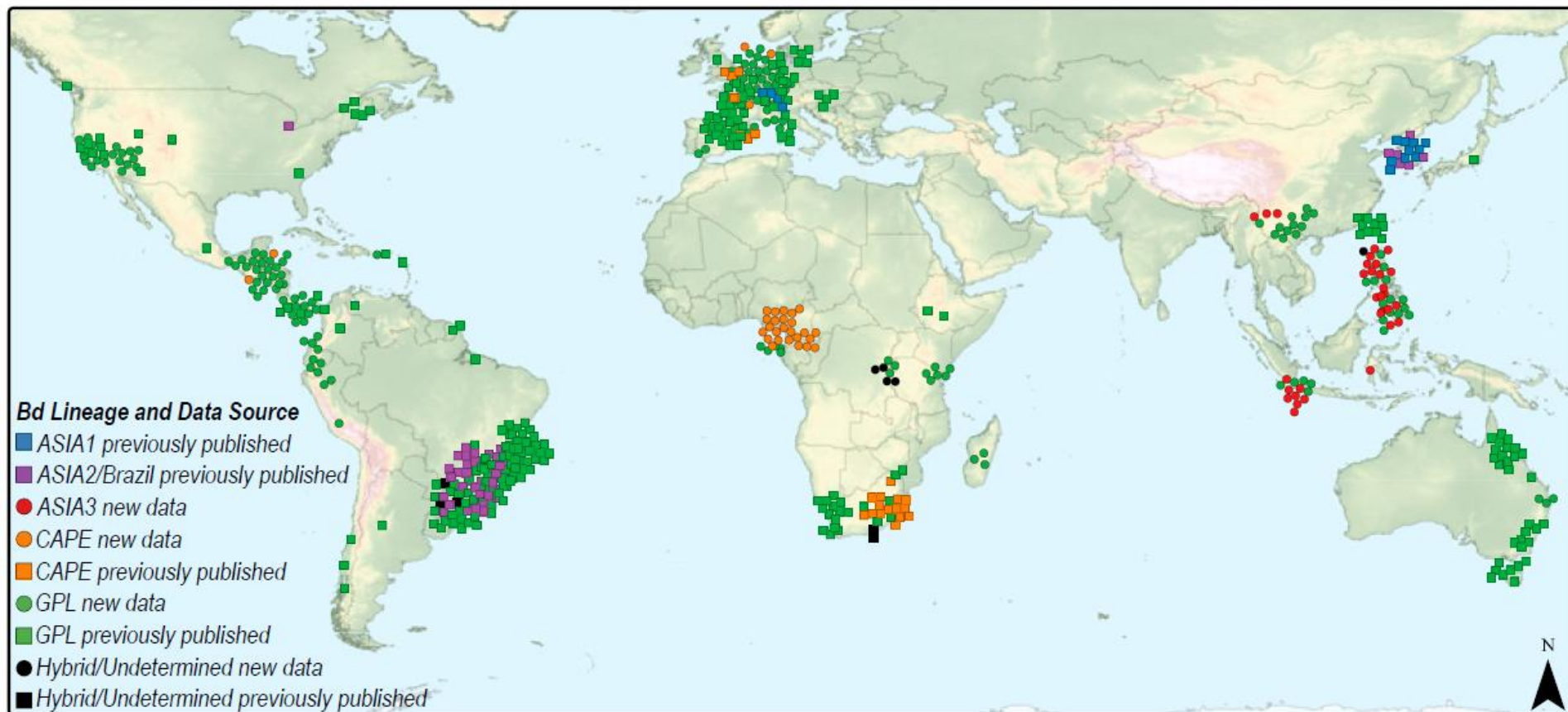
*Batrachochytrium
dendrobatidis* (Bd)

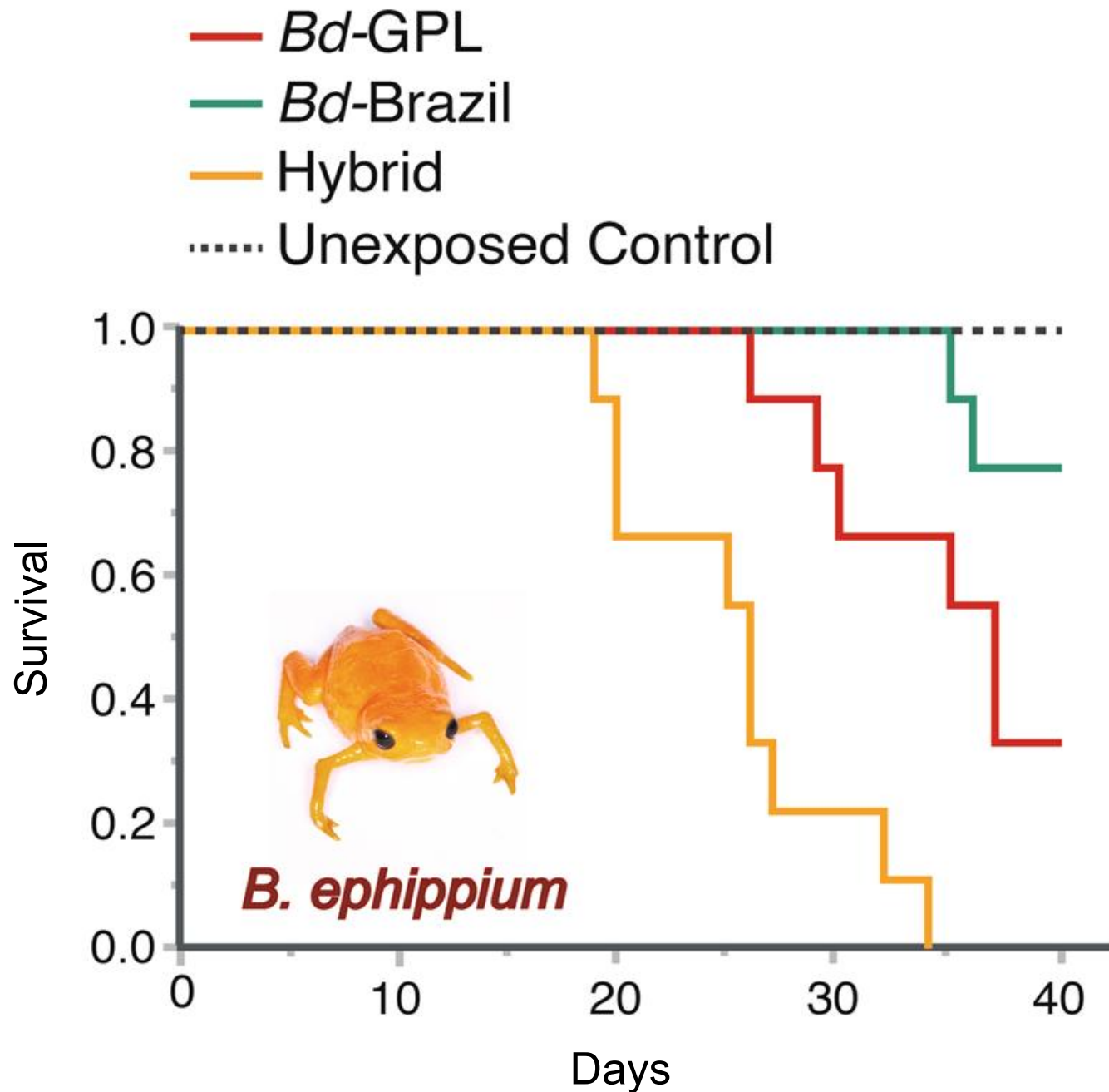


Quitridiomicose

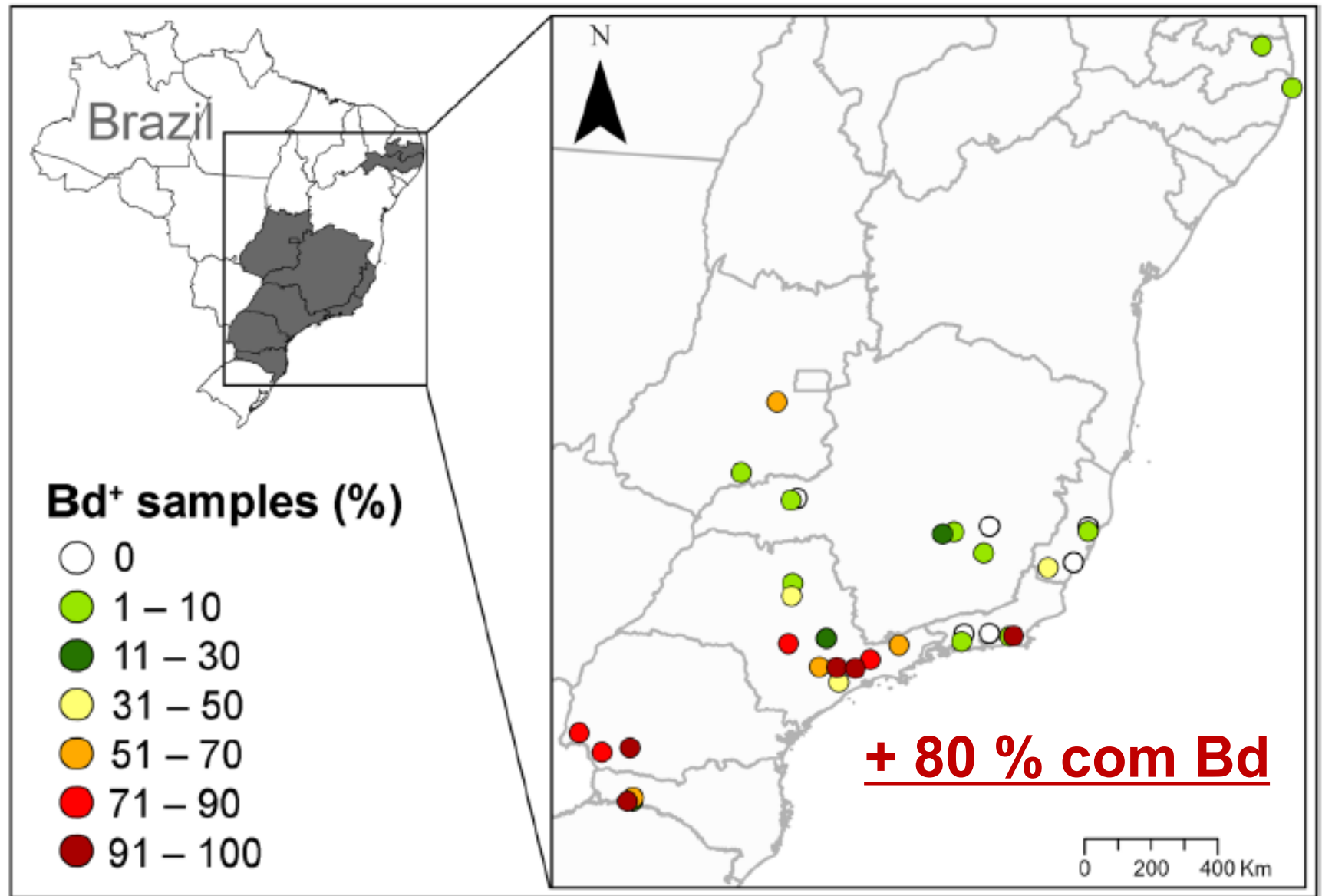


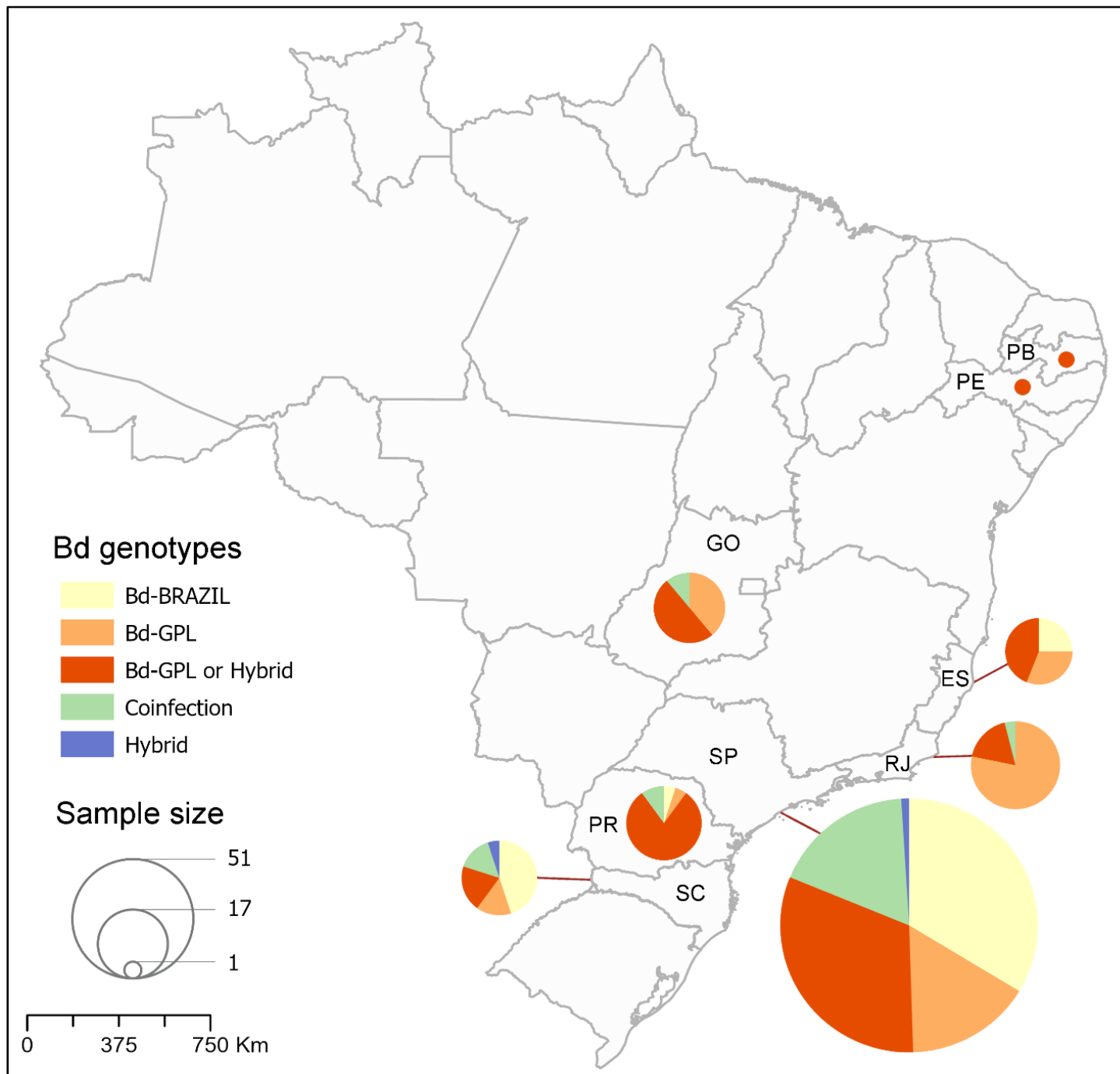
Linhagens de Bd





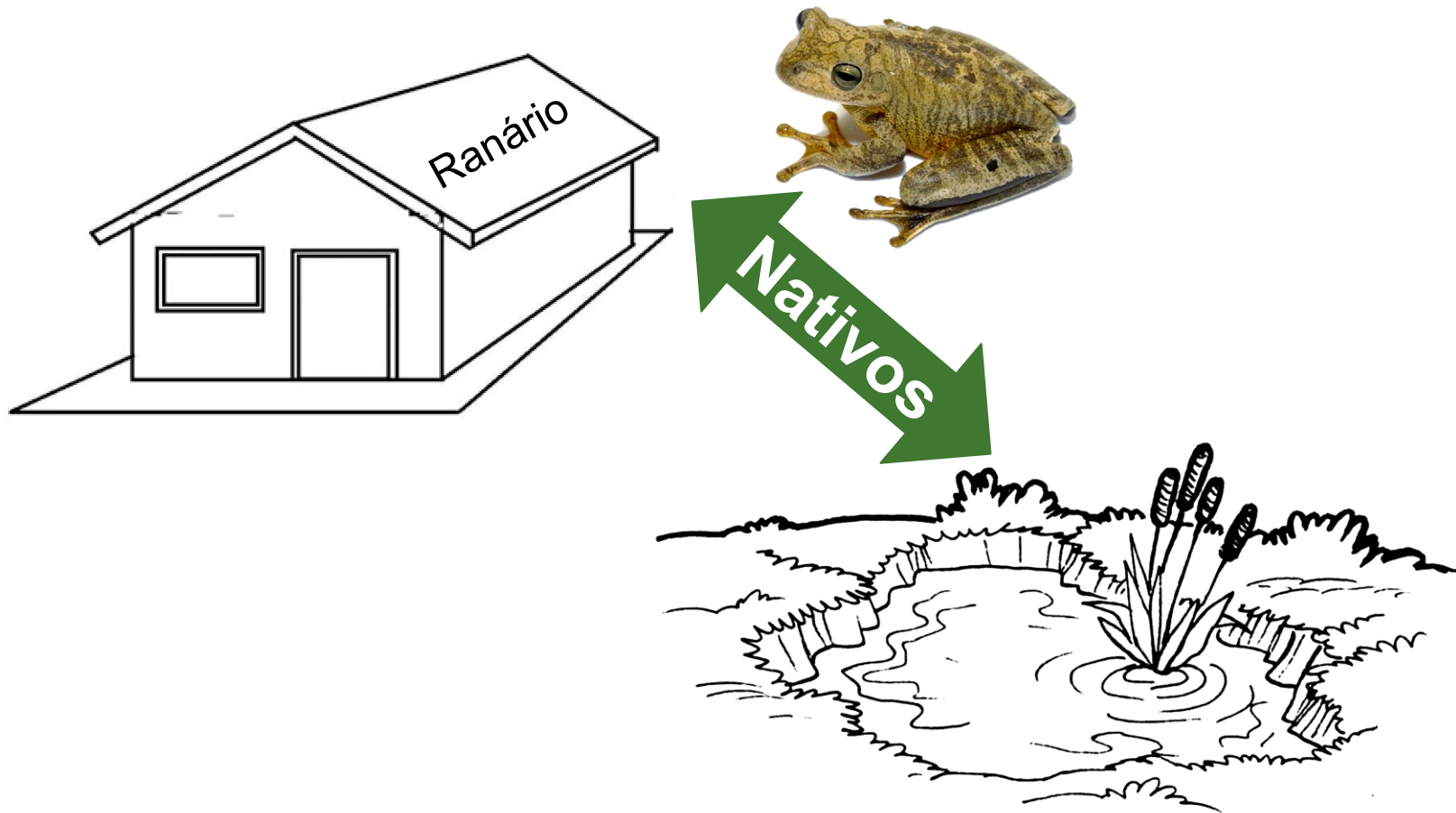
Bd em ranários



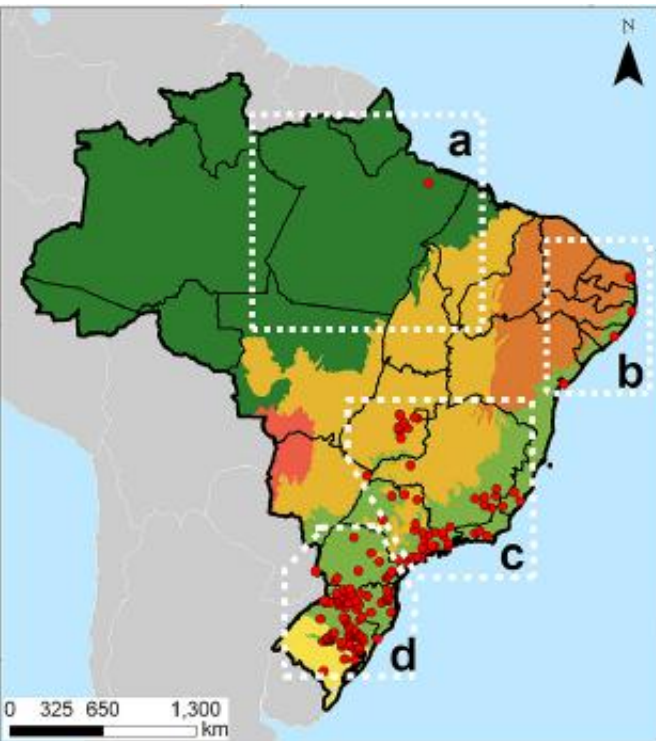
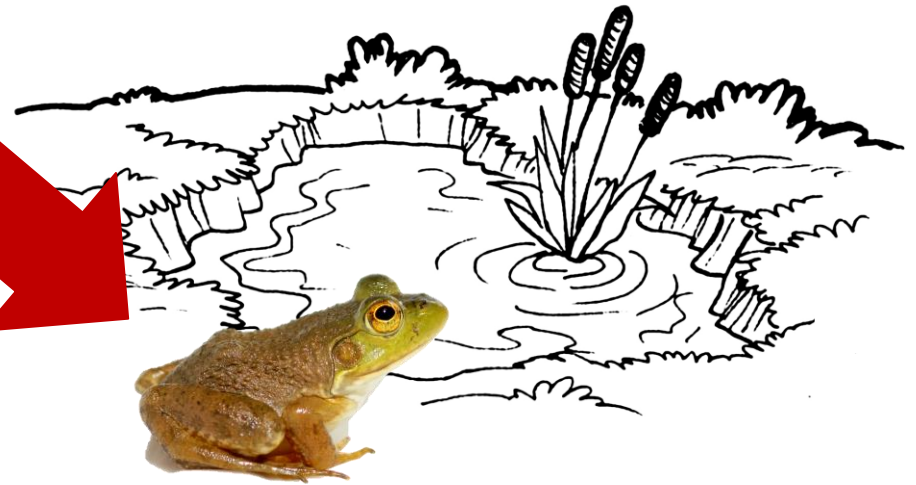
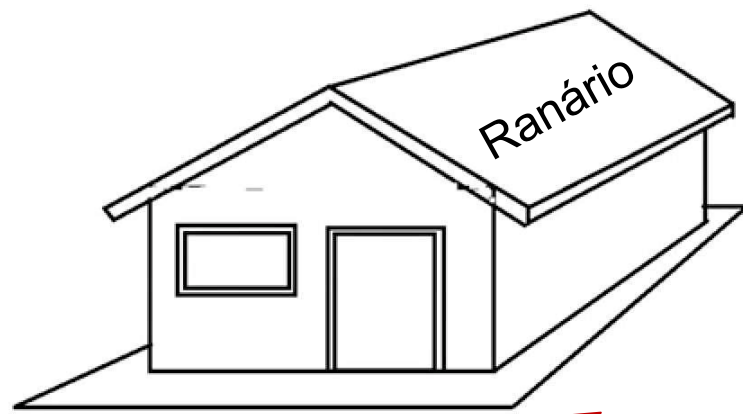




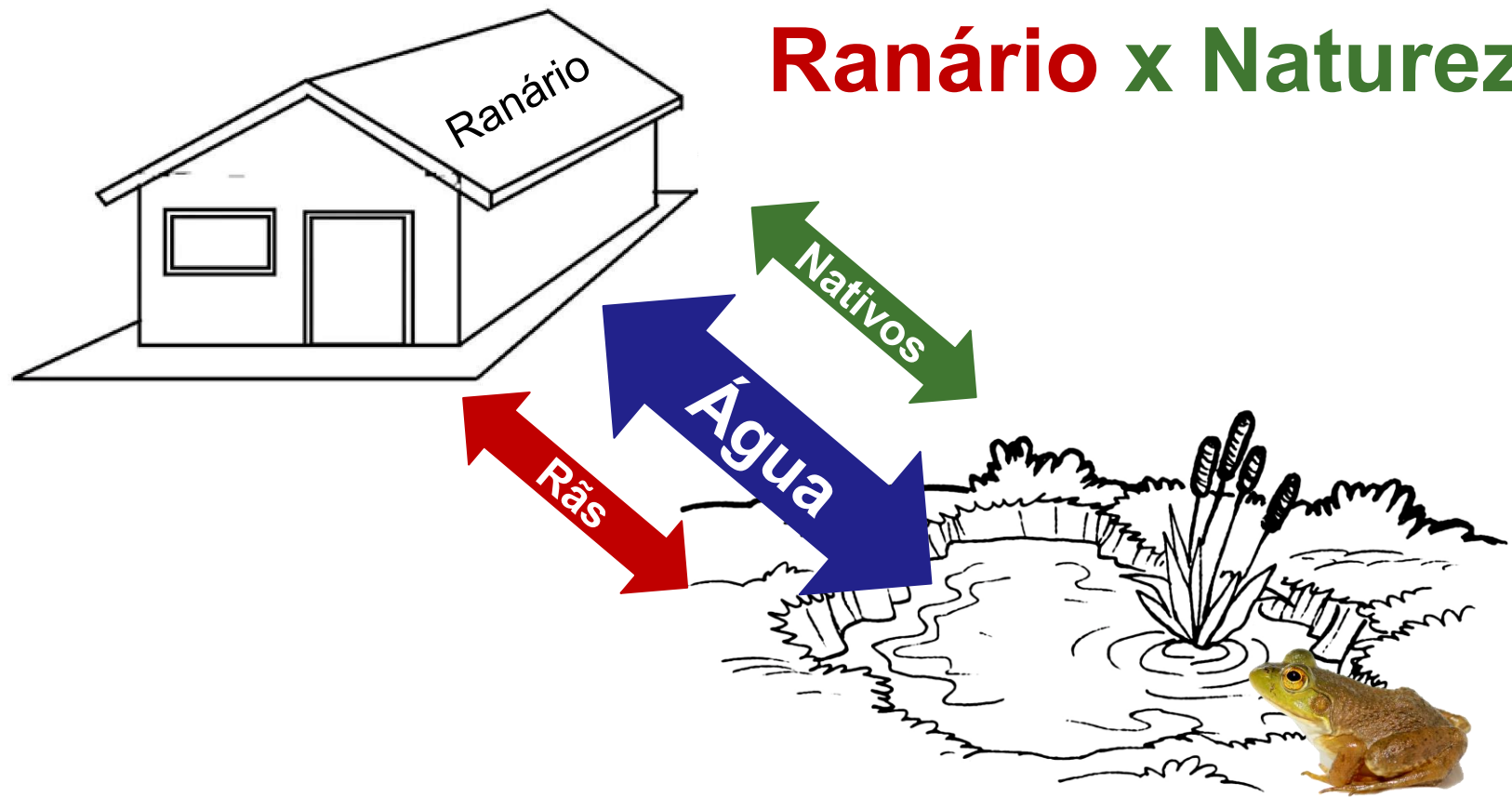
Ranário x Natureza



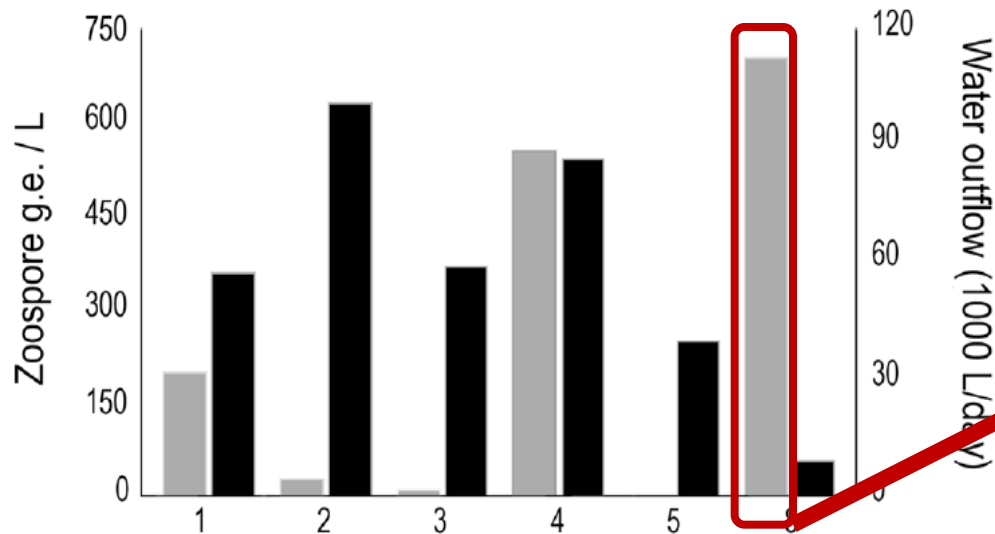
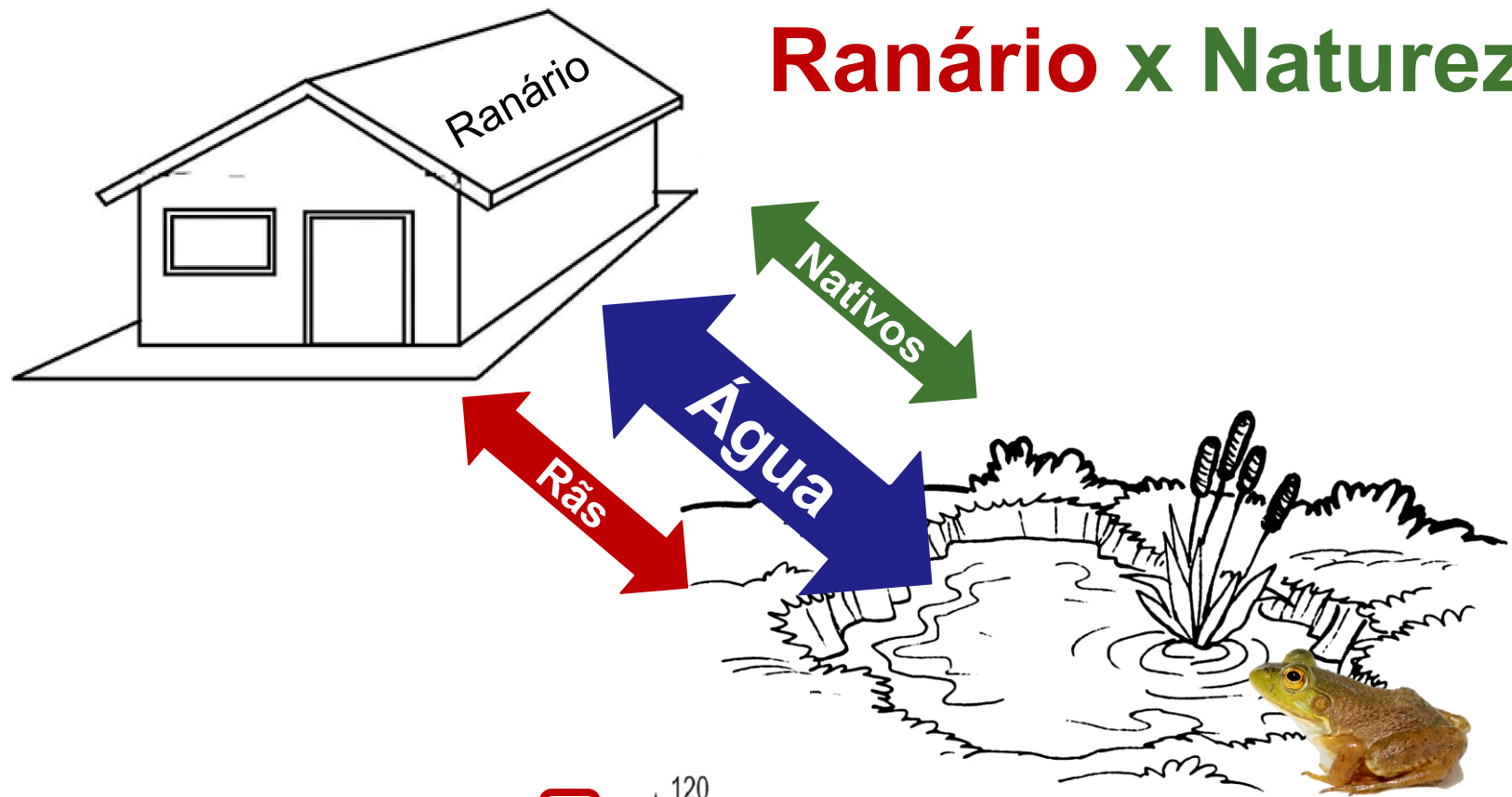
Ranário x Natureza



Ranário x Natureza

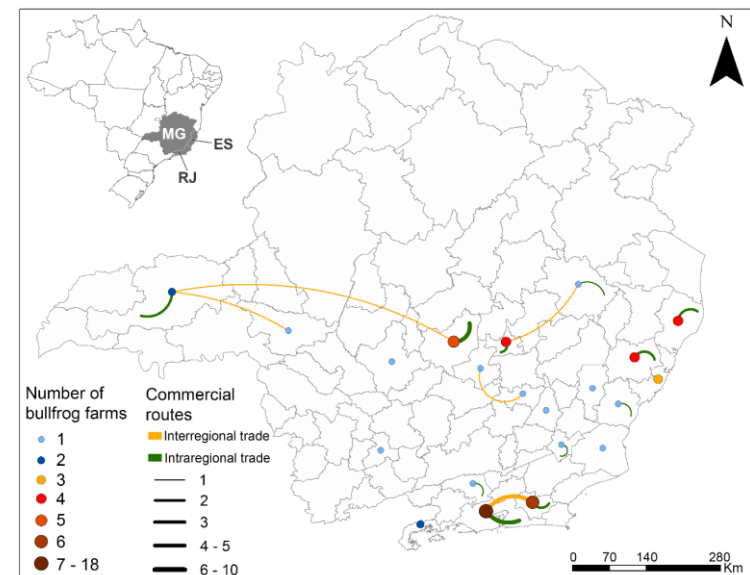
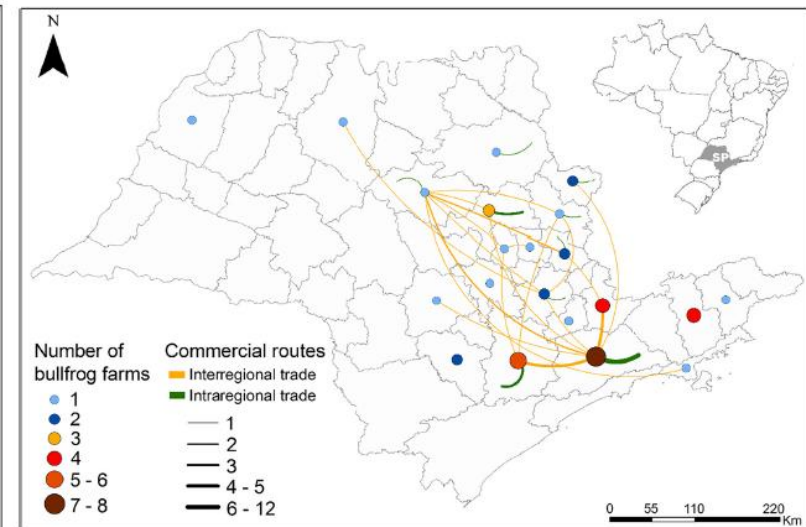
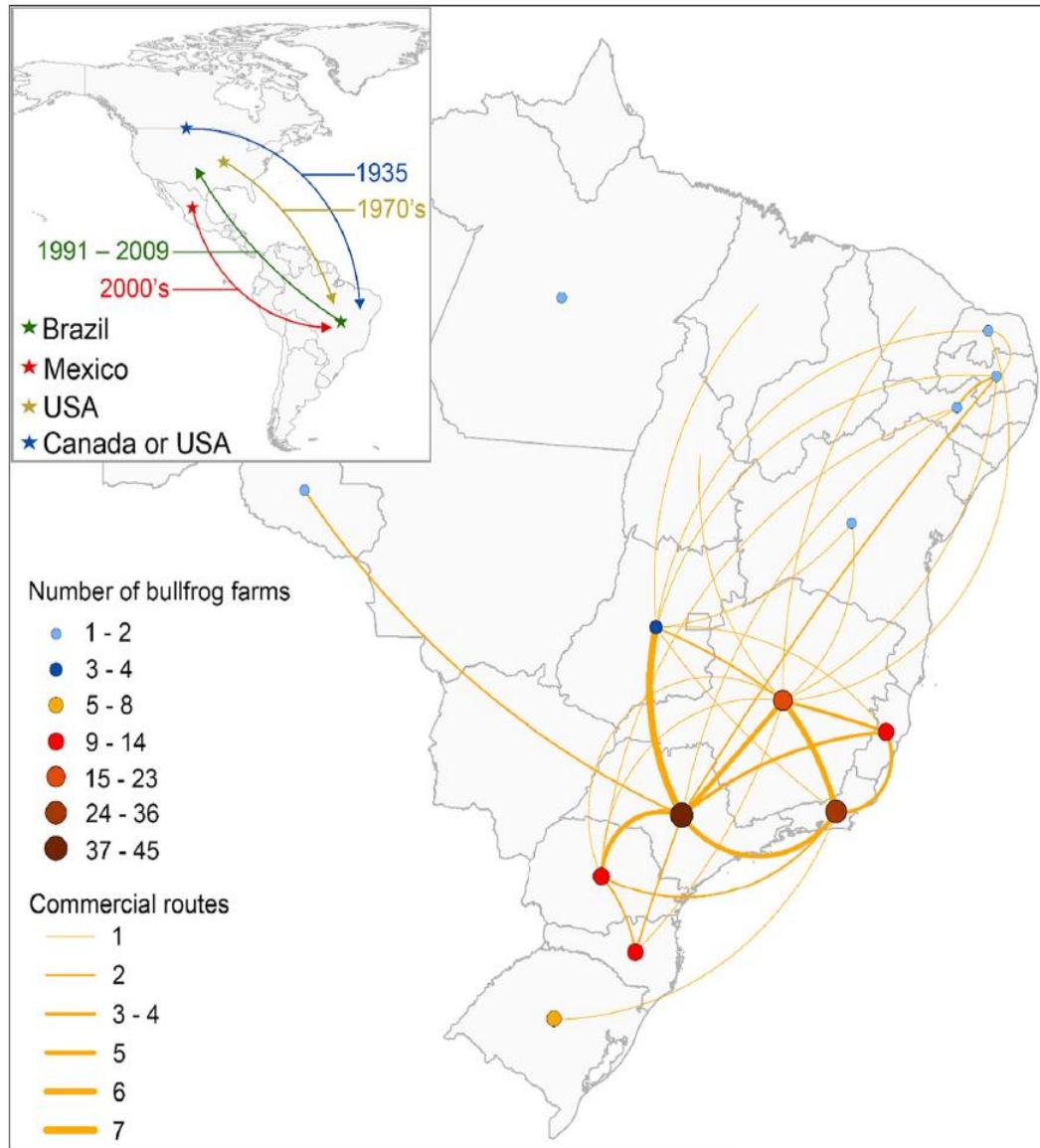


Ranário x Natureza

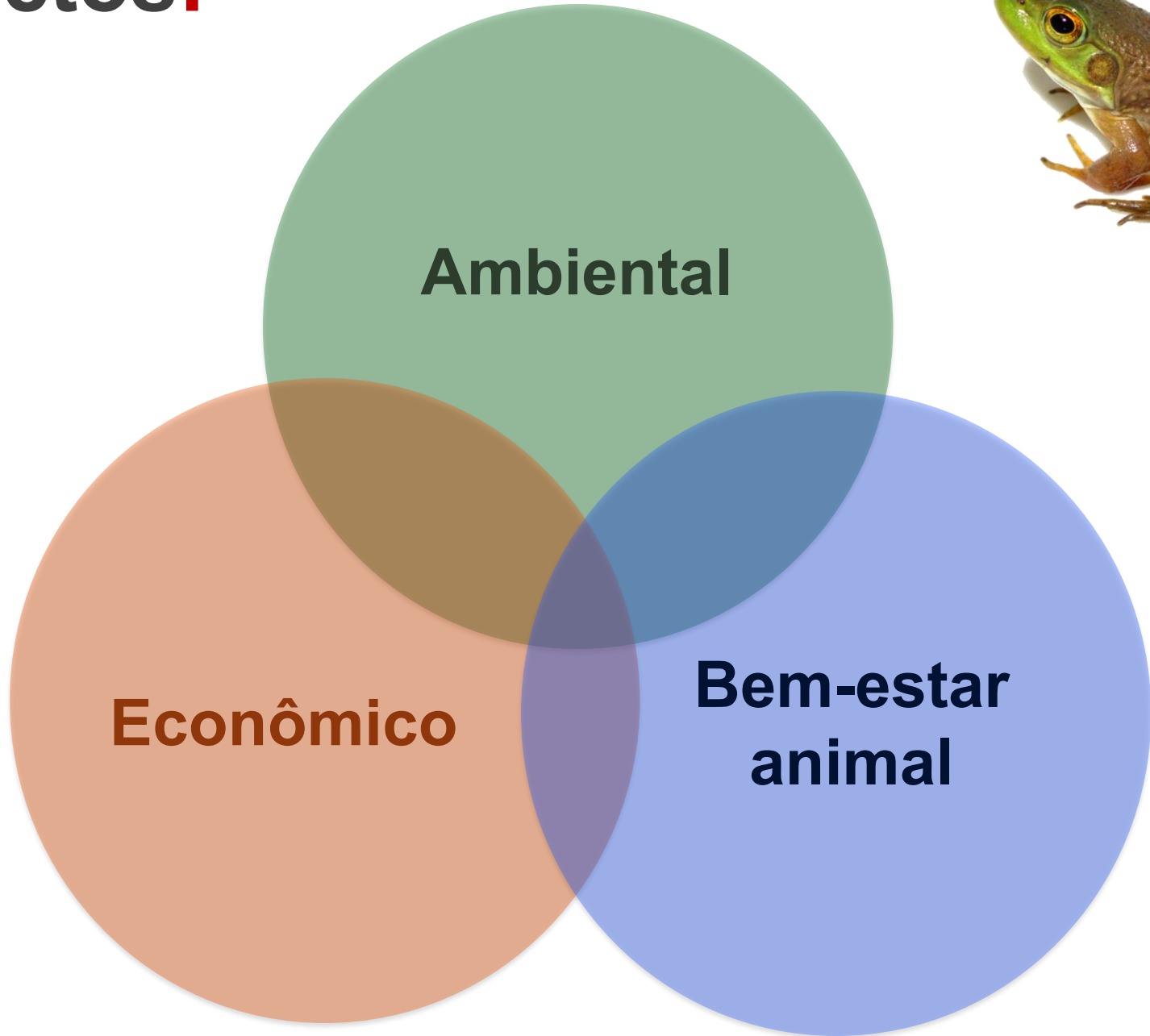


**~ 50 milhões
zoósporos/dia**

Disseminação via comércio



Impactos!



American Bullfrogs as Invasive Species: A Review of the Introduction, Subsequent Problems, Management Options, and Future Directions

Nathan P. Snow and Gary Witmer

USDA APHIS Wildlife Services, National Wildlife Research Center, Fort Collins, Colorado

Proc. 24th Vertebr. Pest Conf. (R. M. Timm and K. A. Fagerstone, Eds.)

Published at Univ. of Calif., Davis. 2010. Pp. 86-89.

Management in Practice

The invasive American bullfrog (*Lithobates catesbeianus*) in the Republic of Korea: history and recommendations for population control

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¹Department of Life Sciences and Division of EcoScience, Ewha Womans University, Seoul, 03760, Republic of Korea

²Department of Fish and Wildlife Conservation, Virginia Tech, Blacksburg, Virginia 24061, USA

³Department of Evolution, Ecology, and Organismal Biology, The Ohio State University, Columbus, Ohio 43210, USA

Investimentos em
gestão e controle de
populações invasoras
a longo prazo



Lacunas regulatórias e risco de flexibilização

- Licenciamento é preventivo
- Sem licenciamento
 - Sem barreiras mínimas
 - Sem rastreabilidade
 - Sem biosseguridade
- Impactos relacionados às **doenças e espécies invasoras**



***Precisamos de regulamentação que equilibre
produção e conservação!***

