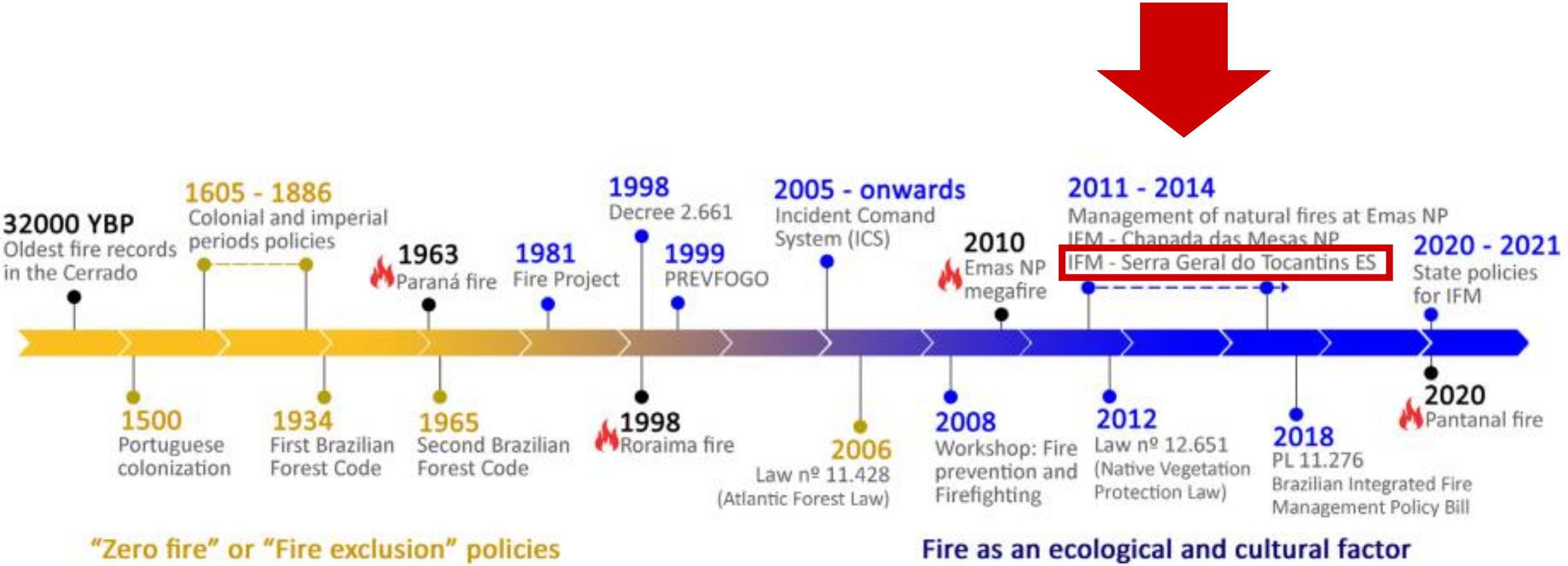


Direct and indirect effects of prescribed fires on small vertebrates in the Brazilian Cerrado

Bruna F. Gomes & Marcio Martins



Fire policies in Brazil



Serra Geral do Tocantins Ecological Station (SGTES)

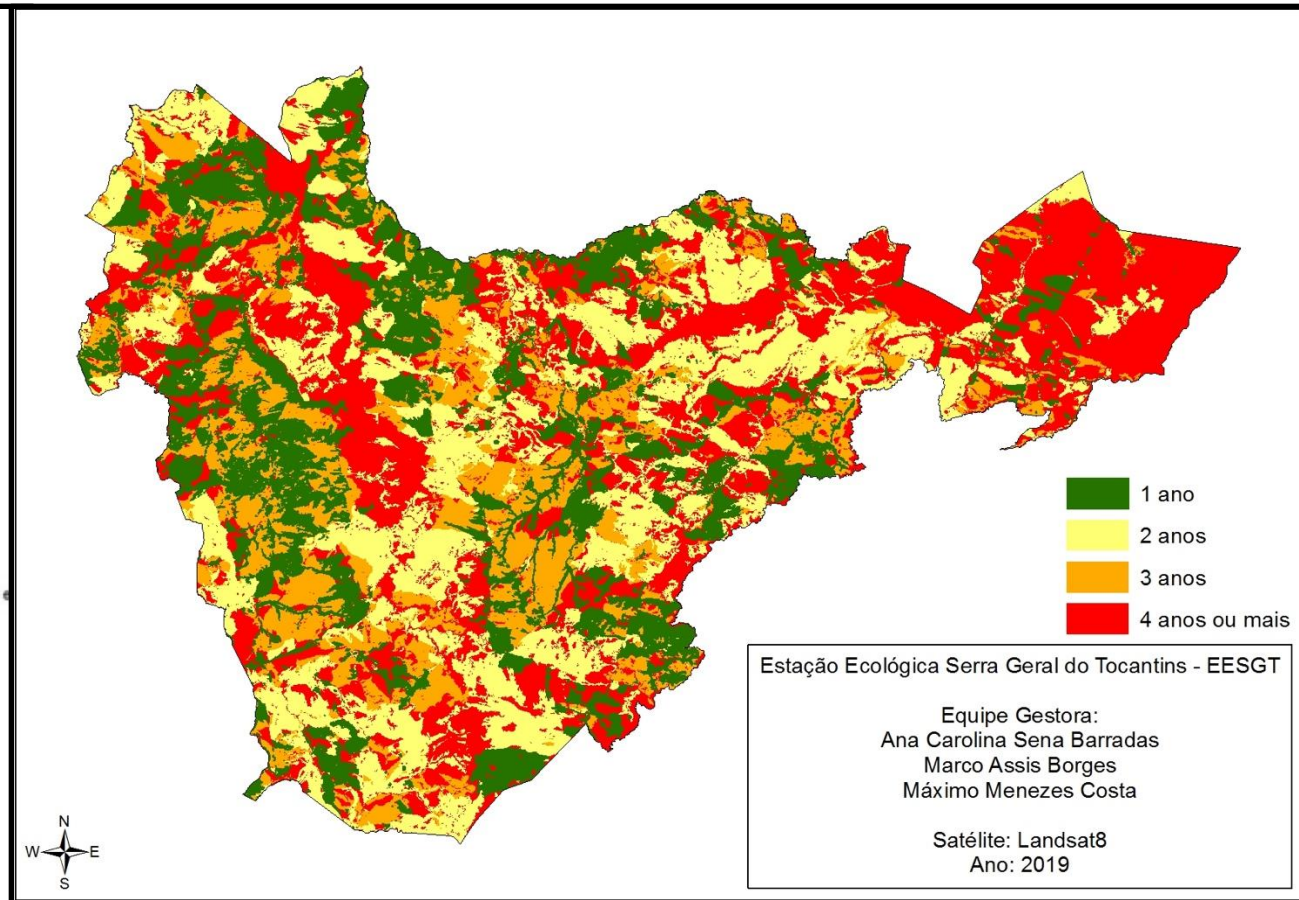
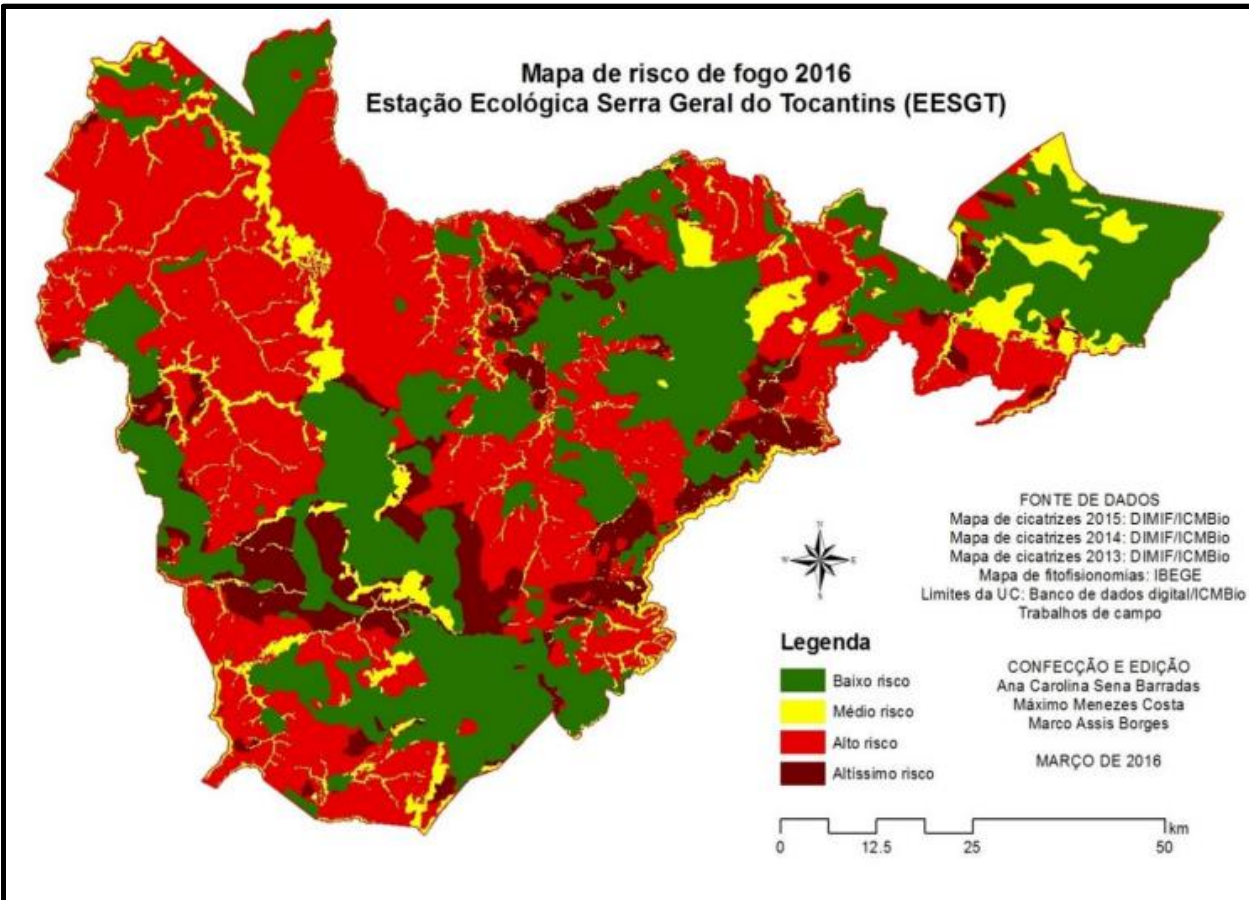


SGTES: 716.306 ha



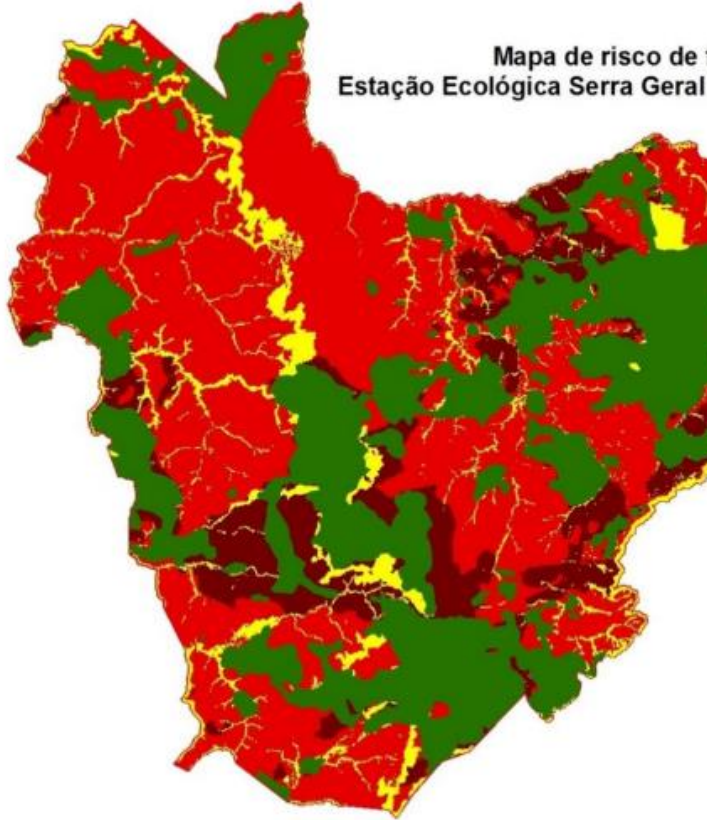
Mostly grasslands

Serra Geral do Tocantins Ecological Station (SGTES)

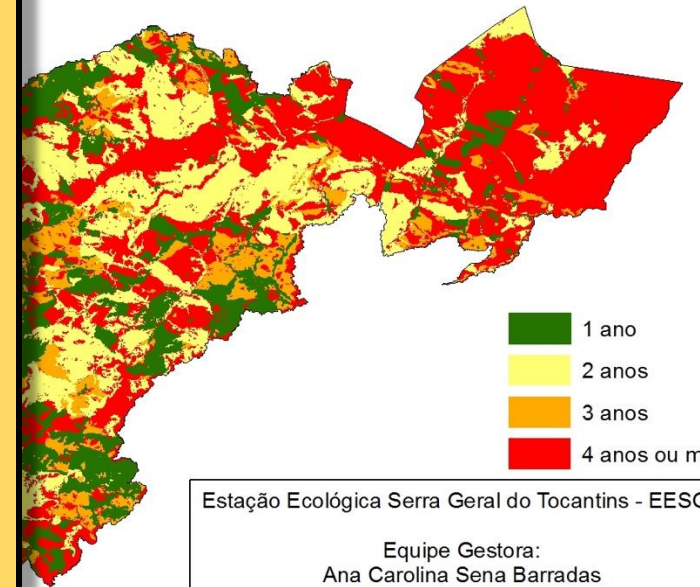


Serra Geral do Tocantins Ecological Station (SGTES)

Mapa de risco de
Estação Ecológica Serra Geral



ANIMALS??
Do prescribed
fires affect
animals?



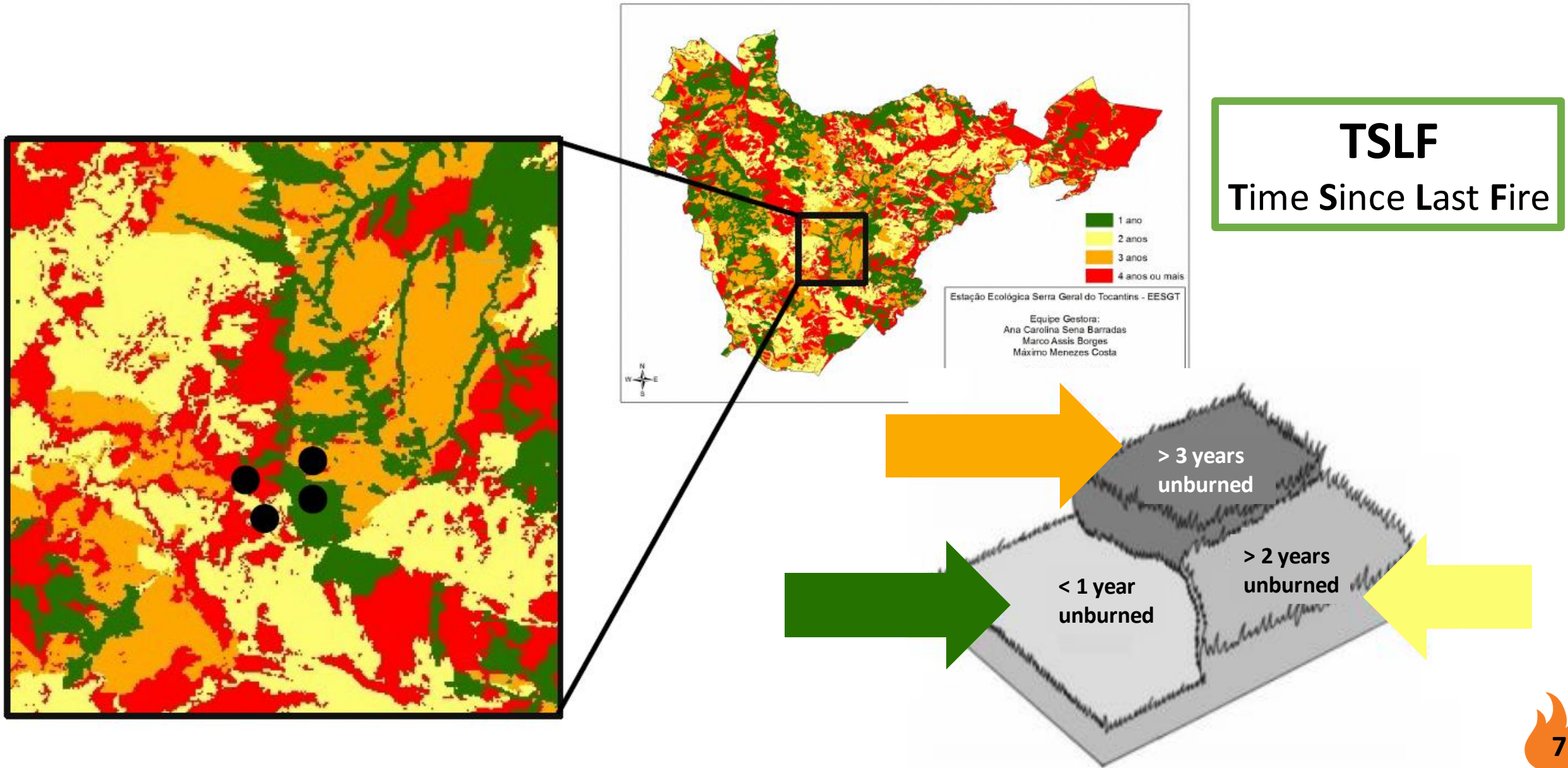
Estação Ecológica Serra Geral do Tocantins - EESGT

Equipe Gestora:
Ana Carolina Sena Barradas
Marco Assis Borges
Máximo Menezes Costa

Satélite: Landsat8
Ano: 2019

S

METHODS





PRESCRIBED BURNS

Direct Effects on animals:
Time-constrained active search
~ 50 min



Direct Effects on animals:
Time-constrained active search
~ 50 min



Direct Effects on animals:

Time-constrained active search

~ 50 min

No large animals were
killed or injured





No amphibians were
killed or injured



17 prescribed burns

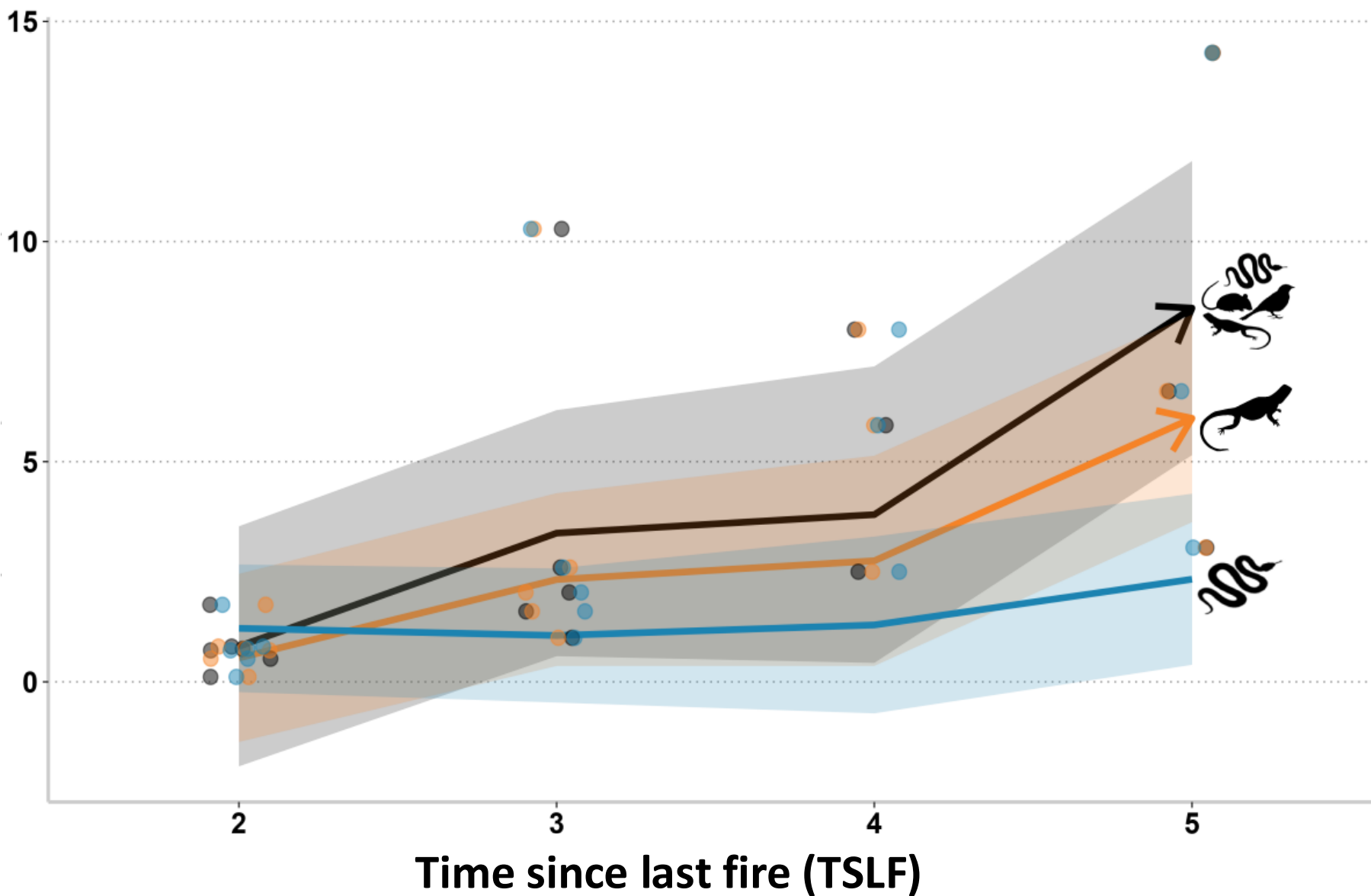
Encounter rate
(ind./person-hour)

$$ER = \frac{\text{dead animals}}{\text{sampling effort}}$$

id fire	C.	date	TSLF	sampling effort (person-hour)	r		s		TOTAL	ind./person-hour (total)	ind./person-hour (snakes)	ind./person-hour (lizards)
												
1	C1	25/06/19	2	9,00			1		1	0,11	0,11	0,00
2	C1	25/06/19	2	5,00				4	4	0,80	0,00	0,80
3	C1	26/06/19	2	13,53	1		2	2	5	0,37	0,15	0,15
4	C2	24/03/21	4	7,00			14	42	56	8,00	2,00	6,00
5	C2	24/03/21	5	7,00		1	29	70	100	14,29	4,14	10,00
6	C2	25/03/21	3	1,75			5	13	18	10,29	2,86	7,43
7	C2	25/03/21	4	5,83			11	23	34	5,83	1,89	3,94
8	C2	26/03/21	3	4,43			4	5	9	2,03	0,90	1,13
9	C3	14/04/21	3	6,17			7	9	16	2,59	1,14	1,46
10	C3	15/04/21	4	6,00			6	9	15	2,50	1,00	1,50
11	C4	21/06/21	2	7,00			2	3	5	0,71	0,29	0,43
12	C5	13/07/21	2	6,67			1	4	5	0,75	0,15	0,60
13	C5	14/07/21	2	8,00			5	9	14	1,75	0,63	1,13
14	C6	19/05/22	5	5,00			11	22	33	6,60	2,20	4,40
15	C6	20/05/22	5	5,25			1	15	16	3,05	0,19	2,86
16	C6	20/05/22	3	5,00			2	6	8	1,60	0,40	1,20
17	C6	22/05/22	3	5,00				5	5	1,00	0,00	1,00
TOTAL				107,63	1	1	101	241	344			

sampling effort

Encounter rate of dead small vertebrates
(individuals/person-hour searched)

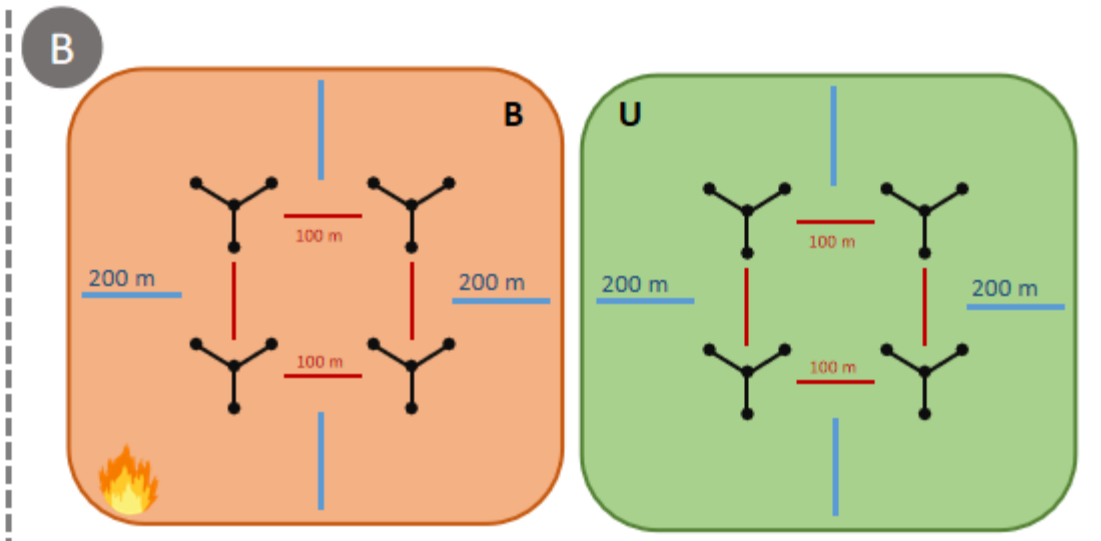
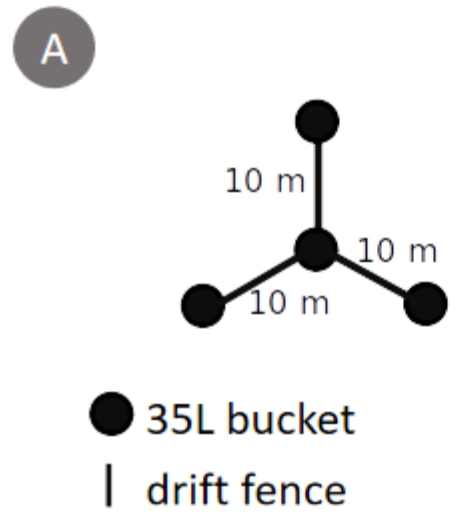
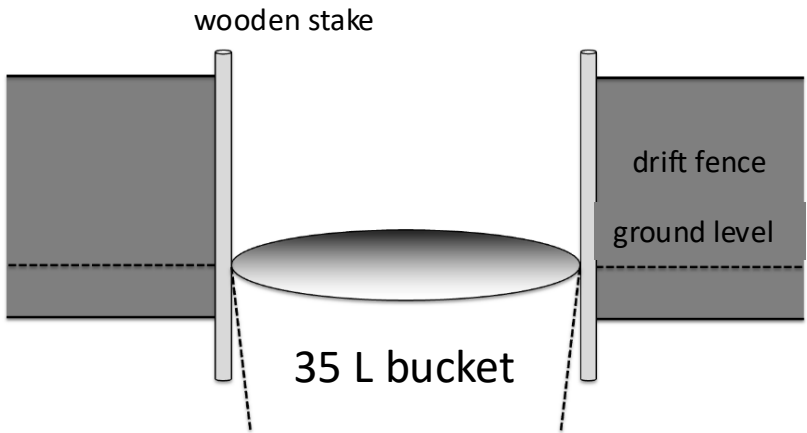


Amount of fuel

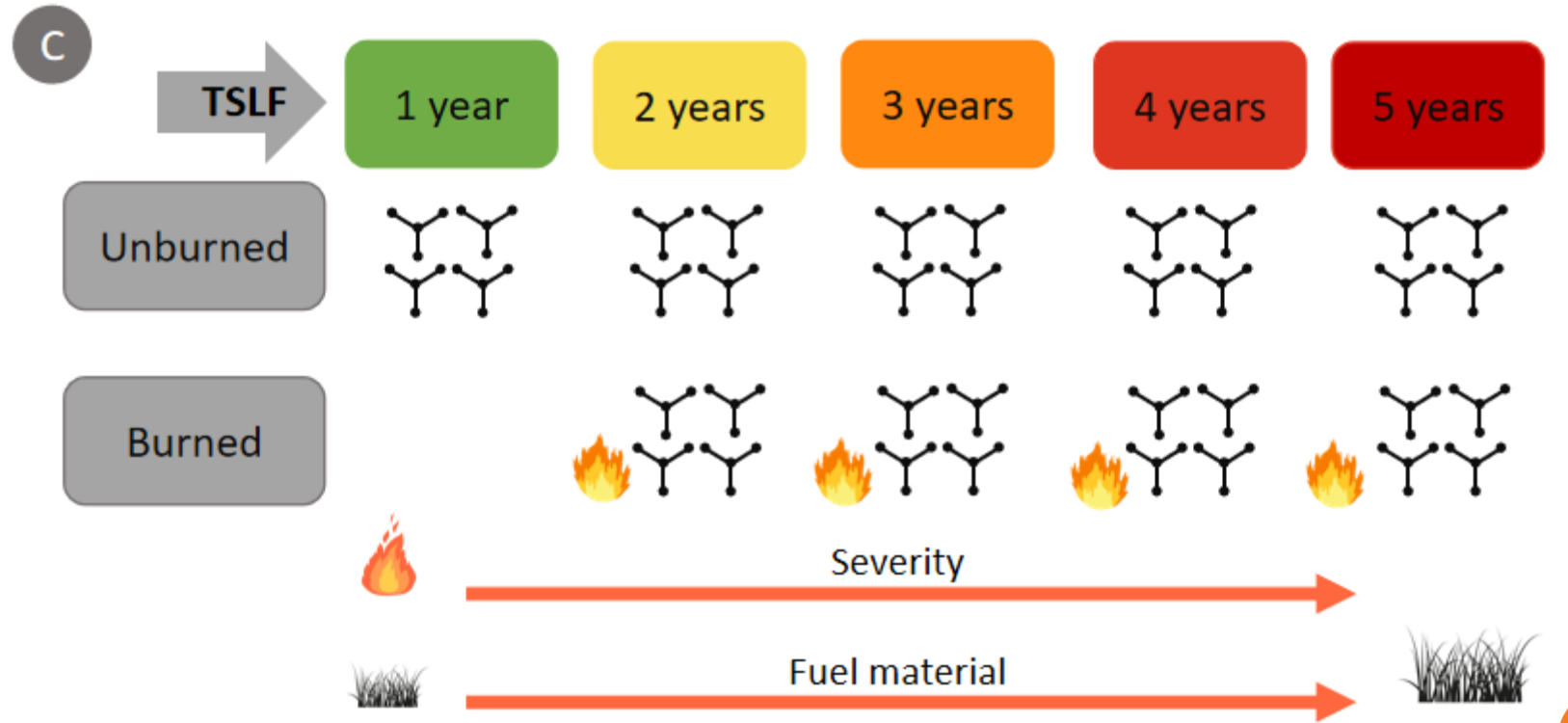


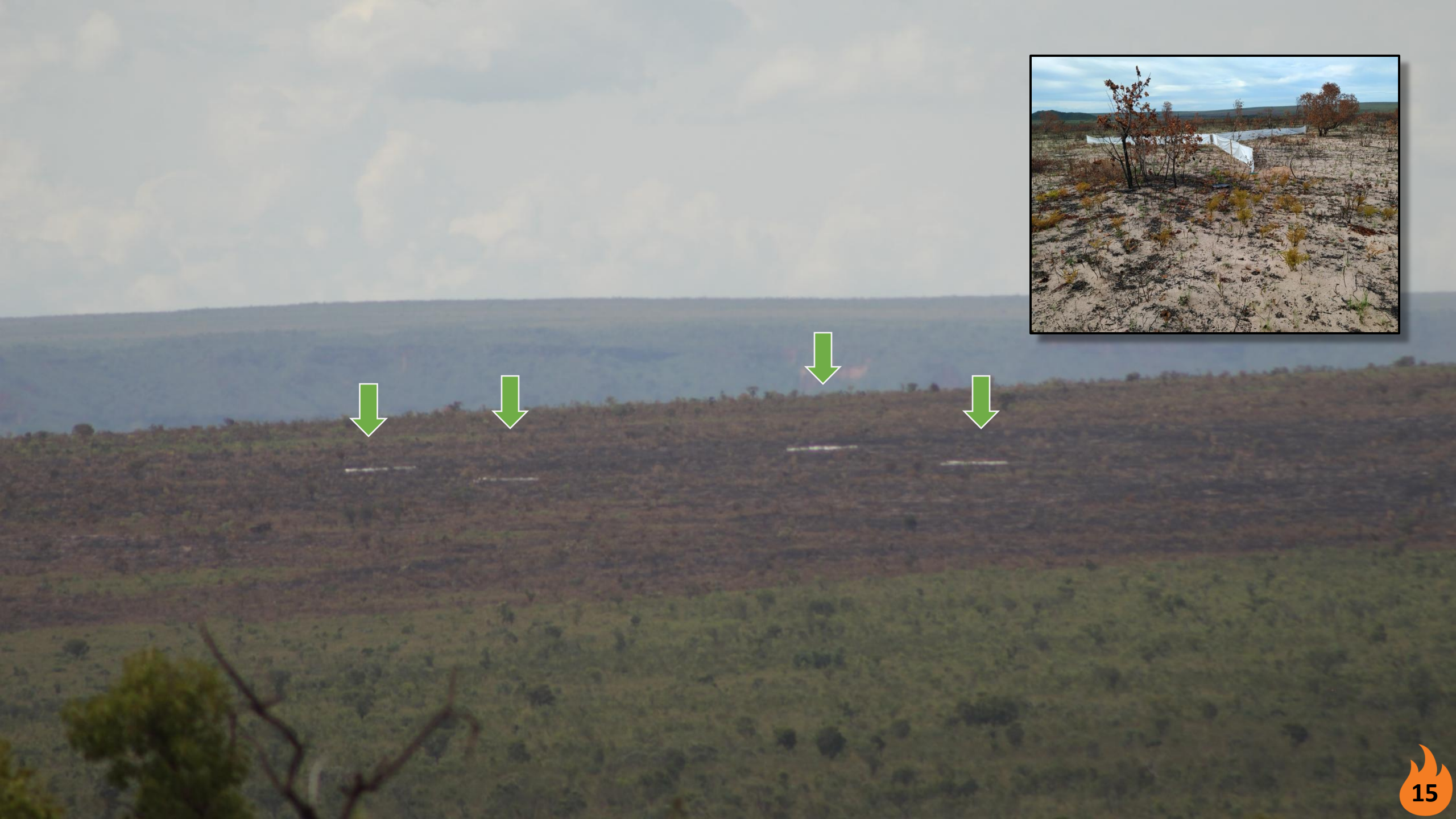
Severity





PITFALL TRAPS







Tropidurus oreadicus

65%

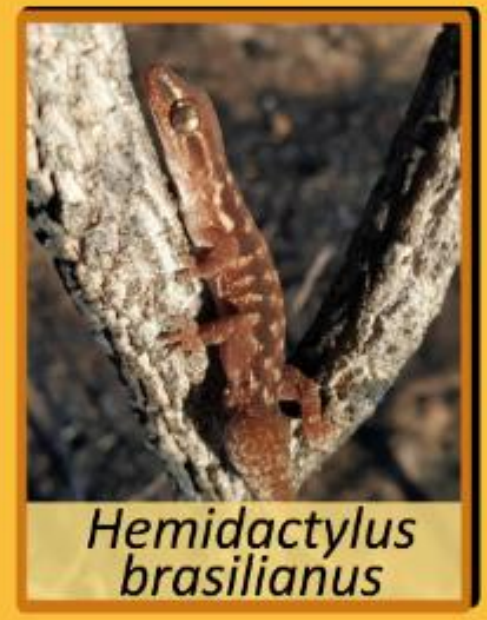


Ameivula jalapensis

24%



Vanzossaura savanicola



Hemidactylus brasilianus



Bachia oxyrhina



Ameiva ameiva



Brasiliscincus heathi



★ *Anolis meridionalis*

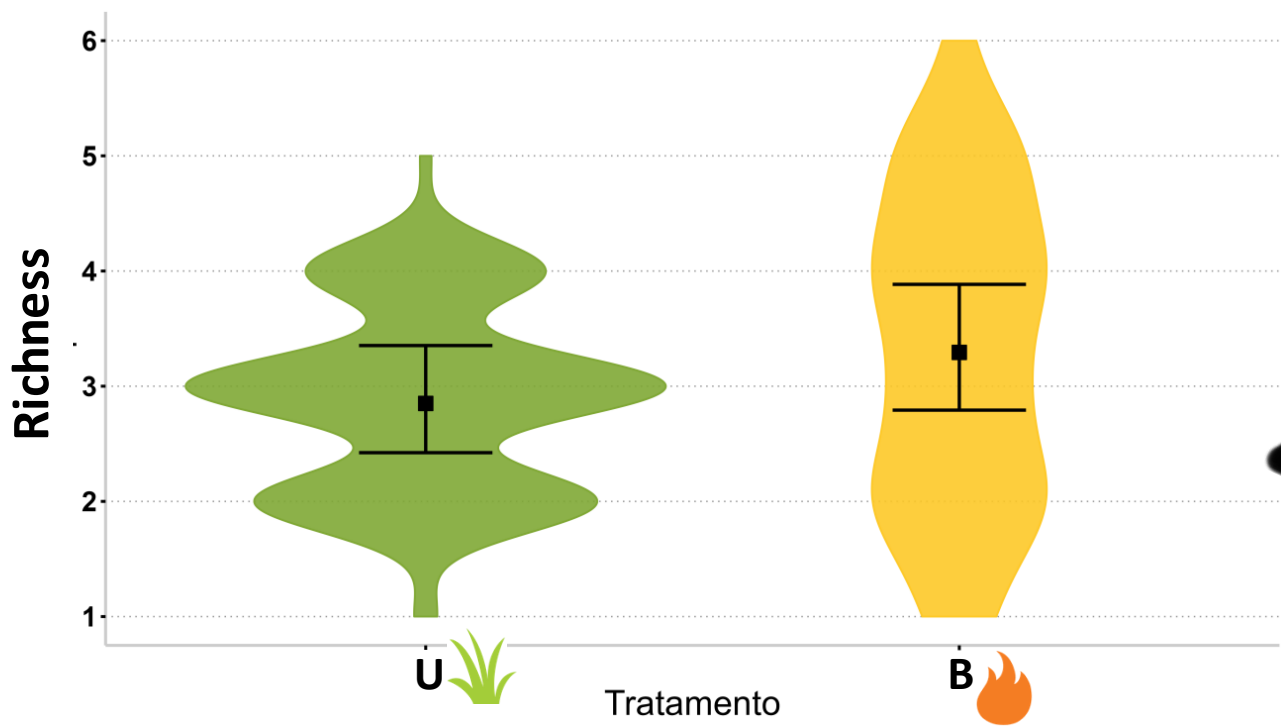


★ *Copeoglossum nigropunctatum*



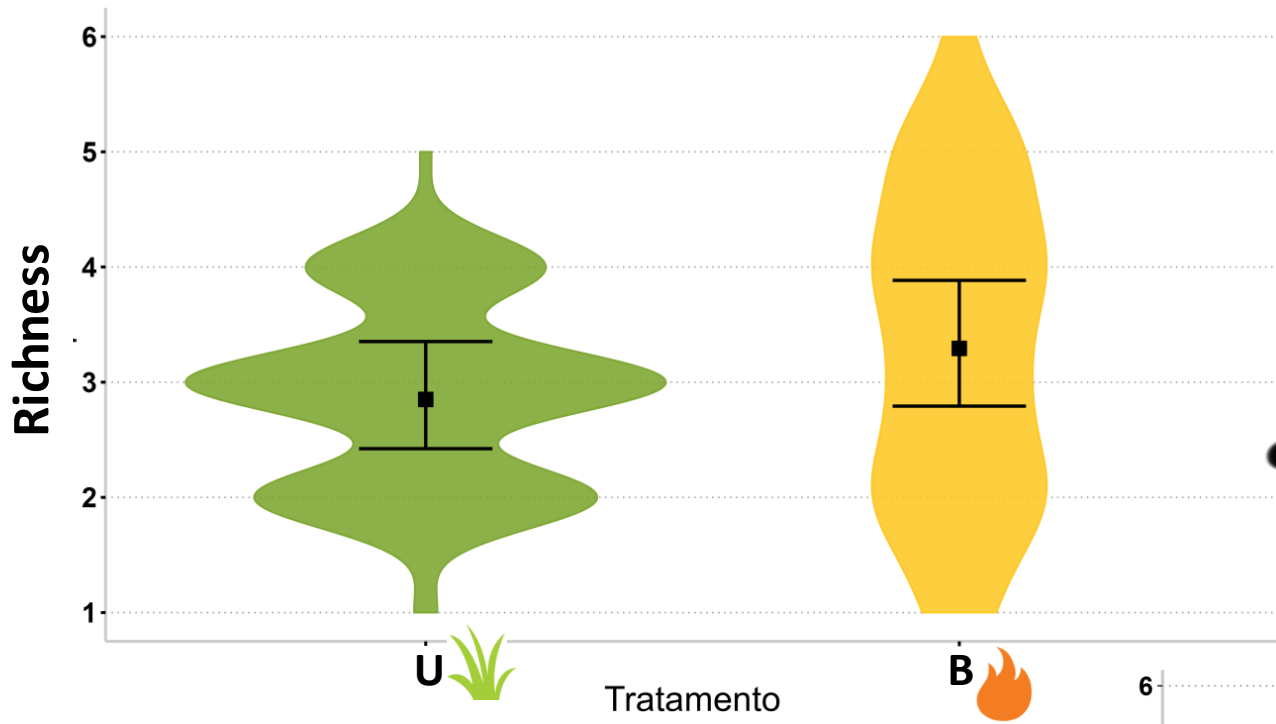
★ *Salvator duseni*

3234 captures

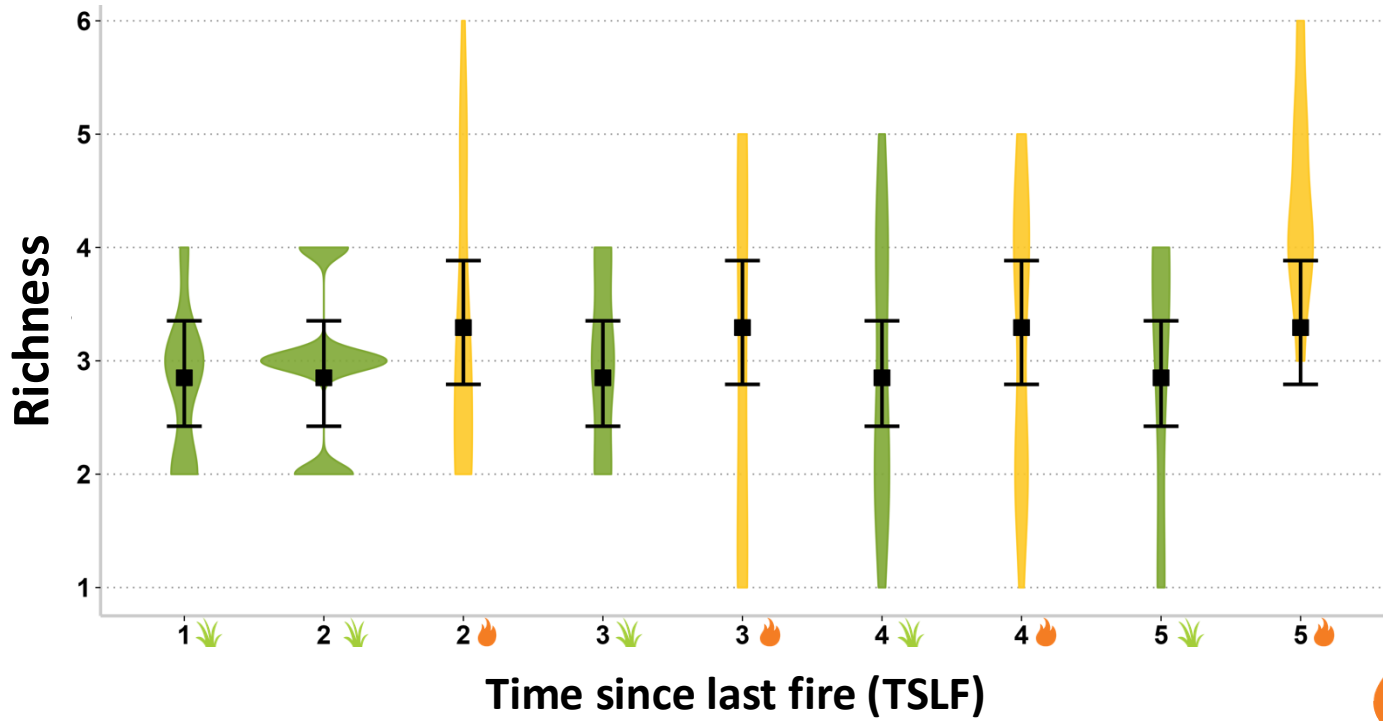


increased movement

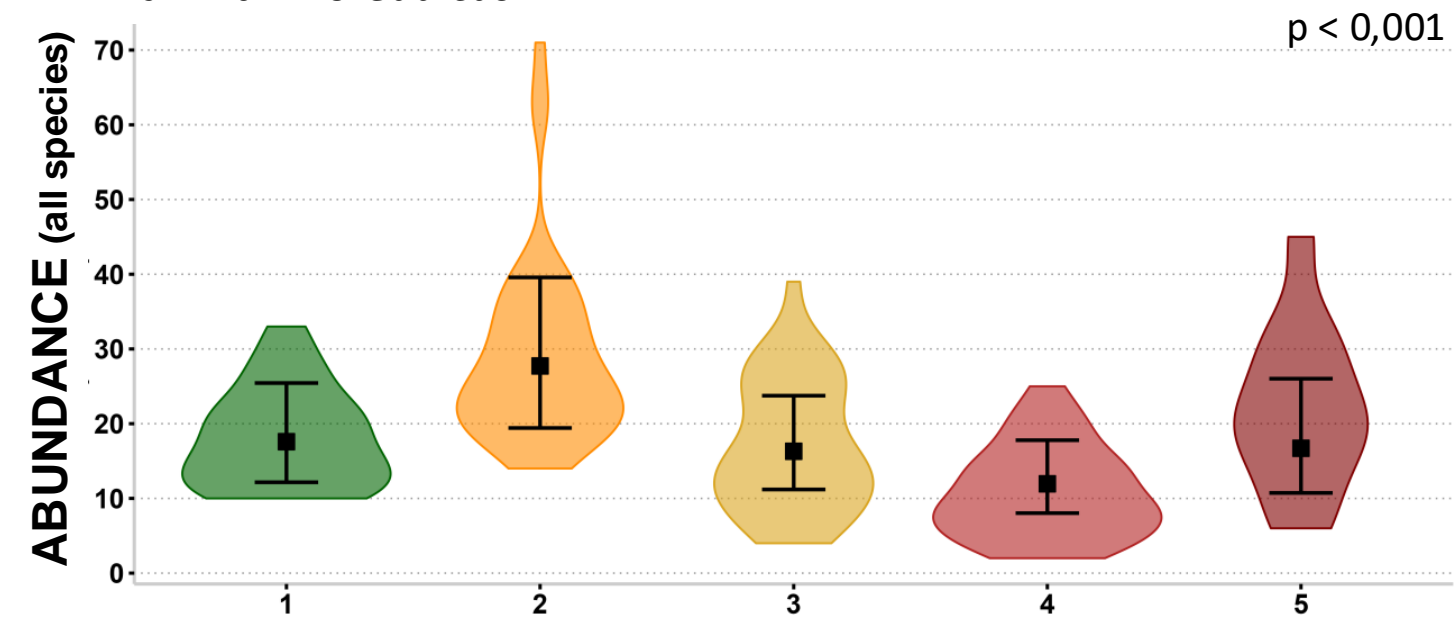




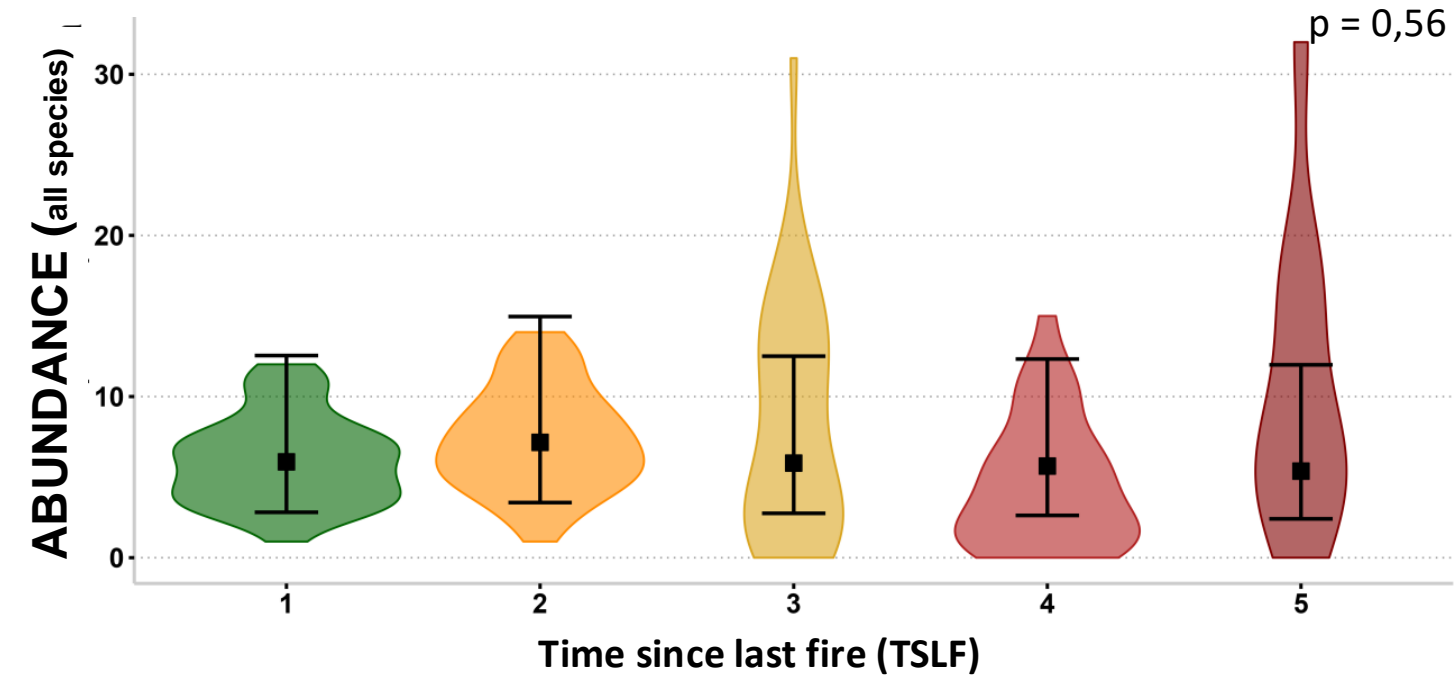
increased movement



a. with *T. oreadicus*



b. without *T. oreadicus*



- No medium-term (up to 5 yr) negative effects were found for any species



- No medium-term (up to 5 yr) negative effects were found for any species

- Thus, Cerrado lizards are **resilient** to prescribed fires used in IFM



- No medium-term (up to 5 yr) negative effects were found for any species
- Thus, Cerrado lizards are **resilient** to prescribed fires used in IFM
- But we found some species-specific responses



No medium-term (up to 5 years)
negative effects for any species

short-term (up to 2 years) effects

Positive



Tropidurus oreadicus

Negative



Brasiliscincus heathi

A landscape photograph of a savanna. In the foreground, there is a field of tall, golden-brown grass. In the middle ground, a large, spreading tree with green leaves stands prominently on the left. The background shows a flat horizon with scattered trees and a blue sky filled with white and grey clouds.

Thanks!

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