Changes in land use affect anuran helminths in the South Brazilian Grasslands

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Supplementary Table S1.Voucher anuran specimenscollected in Brazilian states of Santa Catarina (Painel, Abelardo Luz, and Campo Belo do Sul) and Paraná (Palmas and Tibagi) and housed in the herpetological collection of the Federal University of Santa Maria (ZUFSM). Study site: NG (native grasslands) and A (agricultural cultivation).

Anuran species	Study site	Municipality	Collection number
Aplastodiscusperviridis	NG (n = 19)	Painel	ZUFSM 10925
		Palmas	ZUFSM 11000, 11001, 11002, 11006, 11007, 11021, 11022, 11038, 11039.
		Tibagi	ZUFSM 11107, 11108, 11109, 11110, 11111, 11112, 11113, 11118, 11157.

Anuran species	Study site	Municipality	Collection number
Aplastodiscusperviridis	A (n = 17)	Campo Belo do Sul	ZUFSM 10958
		Abelardo Luz	ZUFSM 11057, 11058, 11059, 11060, 11061.
		Tibagi	ZUFSM 11158, 11162, 11163.
		Palmas	ZUFSM 11012, 11013, 11033, 11034, 11035, 11036, 11037, 11047.
Leptodactyluslatrans	NG(n = 21)	Painel	ZUFSM 10870, 10880, 10899, 10900, 10912, 10913, 10915, 10917, 10919, 10931, 10933.
		Palmas	ZUFSM 10997, 11010, 11014, 11023, 11045.
		Tibagi	ZUFSM 11090, 11096, 11136, 11137, 11179.
Leptodactyluslatrans	A (n = 22)	Campo Belo do Sul	ZUFSM 10940, 10945, 10948, 10949, 10964, 10972; 10973, 10954, 3321, 10960, 10961, 10962.
		Abelardo Luz	ZUFSM 11049, 11056, 11076, 11077, 11078.
		Tibagi	ZUFSM 11180, 11183, 11186, 11189, 11190.
Physalaemuscuvieri	NG (n = 18)	Painel	ZUFSM 10886, 10887, 10888, 10889, 10893, 10894, 10895, 10924, 10926.
		Palmas	ZUFSM 11016, 11017, 11018, 11019, 11032;
		Tibagi	ZUFSM 11102, 11103, 11104, 11105.

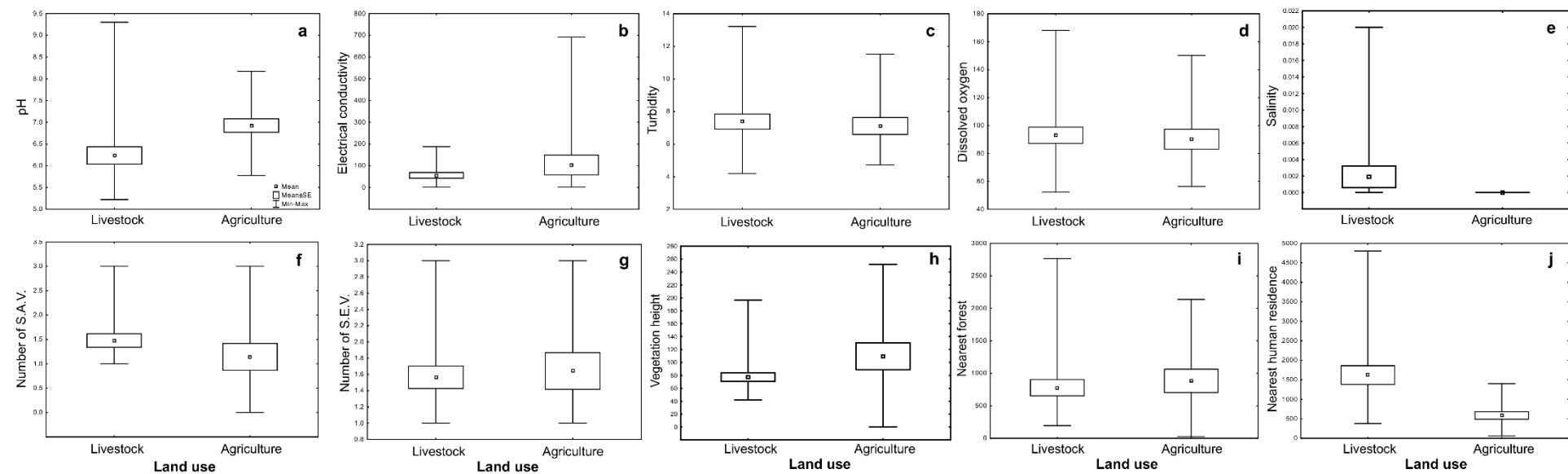| Anuran species	Study site	Municipality	Collection number
Physalaemuscuvieri	A (n = 17)	Campo Belo do Sul	ZUFSM 10985; 10986, 10987, 10993, 10994, 10995, 10996.
		Abelardo Luz	ZUFSM 11068, 11069, 11072, 11074, 11075.
		Tibagi	ZUFSM 11106, 11164, 11169, 11191, 11192.
Pseudiscardosoi	NG (n = 11)	Painel	ZUFSM 10877, 10878, 10879, 10881, 10885, 10892, 10910, 10911, 10923, 10928, 10929, 10930, 10934, 10935, 10939.
Pseudiscardosoi	A (n = 11)	Campo Belo do Sul	ZUFSM 10969, 10971, 10974, 10976, 10977, 10978, 10979.

Supplementary Table S2. Voucher helminths collected in Brazilian states of Santa Catarina (Painel) and Paraná (Palmas and Tibagi), and housed in the helminthological collection of the Botucatu Bioscience Institute (CHIBB).

Helminth species	Municipality	Collection number
Catadiscus sp. 1 (n = 4)	Painel	CHIBB 8051, 8062, 8068, 8150.
Catadiscus sp. 2 (n = 2)	Painel	CHIBB 8151, 8152.
Cilindrotaenia americana (n = 3)	Painel	CHIBB 8142, 8143, 8144.
Cosmocercidae (n = 6)	Painel	CHIBB 7985
	Palmas	CHIBB 7999, 8002, 8003, 8005, 8006.
Cosmocerca parva (n = 5)	Painel	CHIBB 7994
	Palmas	CHIBB 8001, 8108.
	Tibagi	CHIBB 8016, 8026.
Choledocystus elegans (n = 4)	Painel	CHIBB 8047, 8053, 8059.
	Palmas	CHIBB 8074
Choledocystus pseudium (n = 1)	Painel	CHIBB 8154
Falcastra aff. *mascula* (n = 3)	Painel	CHIBB 7989
	Palmas	CHIBB 8010
	Tibagi	CHIBB 8029

Helminth species	Municipality	Collection number
Gorgoderina sp. (n = 8)	Painel	CHIBB 8045, 8046, 8050, 8051, 8054, 8055, 8056, 8057.
Haematolaechus neivai (n = 1)	Painel	CHIBB 8153.
Haematoloechus ozorioi (n = 3)	Painel	CHIBB 8052, 8058, 8061.
Ophiotaenia sp. (n = 11)	Tibagi	CHIBB 8090, 8091, 8092, 8093, 8094, 8095, 8096, 8097, 8098, 8099, 80100.
Oxyascaris oxyascaris (n = 6)	Painel	CHIBB 7980, 7981, 7982, 7993, 7996, 7997.
Pharyngodon sp. (n = 1)	Painel	CHIBB 8147
Physalopteridae (n = 3)	Tibagi	CHIBB 8015, 8023, 8044.
Plerocercoide (n = 3)	Tibagi	CHIBB 8166, 8175, 8178.
Polystoma cuvieri (n = 1)	Painel	CHIBB 8146.
Rhabdias sp. 1 (n = 3)	Painel	CHIBB 8174
	Palmas	CHIBB 8134, 8136.
Rhabdias sp. 2 (n = 5)	Painel	CHIBB 7983, 7984, 7986, 7987, 7988.
Rhabdias sp. 3 (n = 1)	Tibagi	CHIBB 8129.
Pharyngodon sp. (n = 1)	Painel	CHIBB 8147.
Physalopteridae (n = 3)	Tibagi	CHIBB 8015, 8023, 8044.
Plerocercoide (n = 3)	Tibagi	CHIBB 8166, 8175, 8178.

Helminth species	Municipality	Collection number
Polystoma cuvieri (n = 1)	Painel	CHIBB 8146.
Rhabdias sp. 1 (n = 3)	Painel	CHIBB 8174;
	Palmas	CHIBB 8134, 8136.
Rhabdias sp. 2 (n = 5)	Painel	CHIBB 7983, 7984, 7986, 7987, 7988.
Rhabdias sp. 3 (n = 1)	Tibagi	CHIBB 8129.
Rhauschiella proxima (n = 1)	Painel	CHIBB 8063

Supplementary Figure S1. Environmental descriptors (mean, standard error, minimum and maximum values) recorded for ponds sampled in livestock on native grasslands and agriculturalareas at the South Brazilian Grasslands region: a) pH, b) electrical conductivity (µS/cm), c) turbidity (NTU), d) dissolved oxygen (mg/L), e) salinity (g/L), f) number of structural aquatic vegetation (S.A.V.), g) number of structural edge vegetation (S.E.V.), h) height vegetation in the pond edges (cm), i) shorter distance from each pond to the nearest forest fragment (m), and j) shorter distance from each pond to the nearest human residence (m).Ponds in livestock and agriculture differed statistically regarding pH (t=-2.54 and p=0.01), theshorter distance to the nearest human residence (t=3.26 and p=0.00), as well as marginally regarding height of edge vegetation (t=-1.78 and p=0.08).

Supplementary Figure S2. Environmental descriptors represented as percentage in ponds sampled in livestock on native grasslands and agriculturalareas at the South Brazilian Grasslands region: a) grassy cover on pond perimeter, b) shrubby cover on pond perimeter, c) arboreal cover on pond perimeter, d) vegetation cover on water surface, e) hydroperiod (permanent or temporary), f) aquatic mollusks (absent or present), and g) pond origin (natural or anthropic). Ponds in livestock and agriculture differed statistically regarding vegetationcover (t=2.94 and p=0.00), hydroperiod (Chi-square=15.77 and p=0.00), and origin (Chi-square =33.79 and p=0.00).