

SUPPLEMENTARY MATERIAL S9

The use of different buffer radius had little impact on parameters estimate of both linear models with $S_{rarefied}$ (Tab. S9) or LCBD as response variables (Tab. S10). For the models with $S_{rarefied}$ as response variable, only the model with proportion of impervious surface estimated with a buffer of 800m was non-significant ($F_{2,42} = 3.13, P = 0.054$). Considering the parameter estimates, only for the model with proportion of impervious surface estimated with a buffer of 100m had a change in signal for distance to median (EH). The coefficient of determination (R^2_{adj}) varied from 0.09 to 0.17. There were no change in the omnibus tests, significance and direction of parameter estimates for the models with LCBD as response variable (Tab. S10). The pseudo-coefficient of determination ($Pseudo-R^2$) varied from 0.19 to 0.32.

TABLE S9 | Sensitivity analyses assessing the influence of proportion of impervious surface estimated with different buffer radius on the relationship between rarefied species richness ($S_{rarefied}$), proportion of impervious surface and distance to median (EH). SE: standard-error.

Buffer radius (m)	Parameter	Estimate	SE	t	P	F	d.f.	P	R^2_{adj}
100	Intercept	2.06	0.42	4.90	< 0.001	5.16	2, 42	0.010	0.16
	log(EH)	0.05	0.38	0.12	0.903				
	Proportion of impervious surface	-1.17	0.36	-3.21	0.003				
200	Intercept	2.30	0.45	5.09	< 0.001	5.36	2, 42	0.008	0.17
	log(EH)	-0.02	0.38	0.04	0.966				
	Proportion of impervious surface	-1.36	0.41	-3.27	0.002				
300	Intercept	2.38	0.49	4.84	< 0.001	4.24	2, 42	0.021	0.13
	log(EH)	-0.02	0.39	-0.05	0.958				
	Proportion of impervious surface	-1.37	0.47	-2.91	0.006				
400	Intercept	2.45	0.53	4.60	< 0.001	3.52	2, 42	0.039	0.10
	log(EH)	-0.04	0.40	-0.10	0.922				
	Proportion of impervious surface	-1.38	0.52	-2.65	0.011				
500	Intercept	2.53	0.56	4.50	< 0.001	3.32	2, 42	0.046	0.10
	log(EH)	-0.05	0.40	-0.13	0.898				
	Proportion of impervious surface	-1.43	0.56	-2.58	0.014				
800	Intercept	2.68	0.61	4.35	< 0.001	3.13	2, 42	0.054	0.09
	log(EH)	-0.07	0.40	-0.18	0.857				
	Proportion of impervious surface	-1.54	0.61	-2.50	0.016				
1000	Intercept	2.80	0.61	4.59	< 0.001	3.86	2, 42	0.029	0.12
	log(EH)	-0.08	0.40	-0.19	0.850				
	Proportion of impervious surface	-1.71	0.62	-2.78	0.008				
1500	Intercept	2.95	0.61	4.86	< 0.001	4.75	2, 42	0.014	0.15
	log(EH)	-0.13	0.39	-0.33	0.746				
	Proportion of impervious surface	-1.94	0.63	-3.08	0.004				
2000	Intercept	2.92	0.61	4.81	< 0.001	4.58	2, 42	0.016	0.14
	log(EH)	-0.15	0.39	-0.38	0.707				
	Proportion of impervious surface	-1.98	0.66	-3.03	0.004				



This is an open access article under the terms of the Creative Commons Attribution License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited.

Distributed under
Creative Commons CC-BY 4.0

© 2021 The Authors.
Diversity and Distributions Published by SBI



Official Journal of the
Sociedade Brasileira de Ictiologia

HOW TO CITE THIS ARTICLE

- Ortega JCG, Bacani I, Dorado-Rodrigues TF, Strüssmann C, Fernandes IM, Morales J, Mateus L, Silva HP, Penha J. Effects of urbanization and environmental heterogeneity on fish assemblages in small streams. *Neotrop Ichthyol.* 2021; 19(3):e210050. <https://doi.org/10.1590/1982-0224-2021-0050>