

Supplementary material

Fish in the matrix: effects of landscape on community-structure patterns of the ichthyofauna of streams in Cerrado

Thiago Bernardi Vieira^A, *Leandro Schlemmer Brasil*^{B,G}, *Naiara Raiol Torres*^C, *Tatiana Lima de Melo*^D, *Elto Aparecido Moreira*^E, *Rogério Pereira Bastos*^F and *Karina Dias-Silva*^A

^APrograma de Pós-graduação em Biodiversidade e Conservação, Universidade Federal do Pará, Rua Coronel José Porfírio, 2515, São Sebastiao, Altamira, Pará, CEP 68372-040, Brazil.

^BPrograma de Pós-graduação em Zoologia, Universidade Federal do Pará, Avenida Perimetral, 1901, Terra Firme, Belém, Pará, CEP 66017-970, Brazil.

^CPrograma de Pós-Graduação em Ecologia Aquática e Pesca, Universidade Federal do Pará, Avenida Perimetral, 1901, Terra Firme, Belém, Pará, CEP 66017-970, Brazil.

^DFaculdades Unidas do Vale do Araguaia, Rua Moreira Cabral, 1000, Setor Mariano, Barra do Garças, Mato Grosso, CEP 78.600-000, Brazil.

^EUniversidade Federal de Goiás, Instituto de Ciências Biológicas, Departamento de Ecologia, Rodovia Goiânia–Nerópolis quilômetro 5, Campus II, Itatiaia, Goiânia, Goiás, CEP 74001-970, Brazil.

^FPrograma de Pós-Graduação em Biodiversidade Animal, Universidade Federal de Goiás, Rodovia Goiânia–Nerópolis quilômetro 5, Campus II Itatiaia, Goiânia, Goiás, CEP 74001-970, Brazil.

^GCorresponding author. Email: brasil_biologia@hotmail.com

Classification of land use and land cover

We selected the sites to be categorical classes and not continuous gradients. Therefore, we were not able to perform continuous analyses, such as regression. To test the categorical classes, we performed a principal-component analysis, PCA (Fig. S1), which showed three sets of points, one for each category considered in the paper. If the PCA did not show significance, we performed permutational multivariate ANOVA using distance matrices (PERMANOVA), so as to find out which groups were truly different ($F_{(2,20)} = 2458.2$, $R^2 = 0.996$, $P < 0.001$). The land-use data were inserted in Table 1 of the paper and the discrepancy among categories could be observed. Therefore, we could not perform landscape analysis at the point of a continuous gradient. For the classification, we considered a circular buffer of 1000-m radius upstream from the sampling point. We have not included PCA and PERMANOVA in the paper.

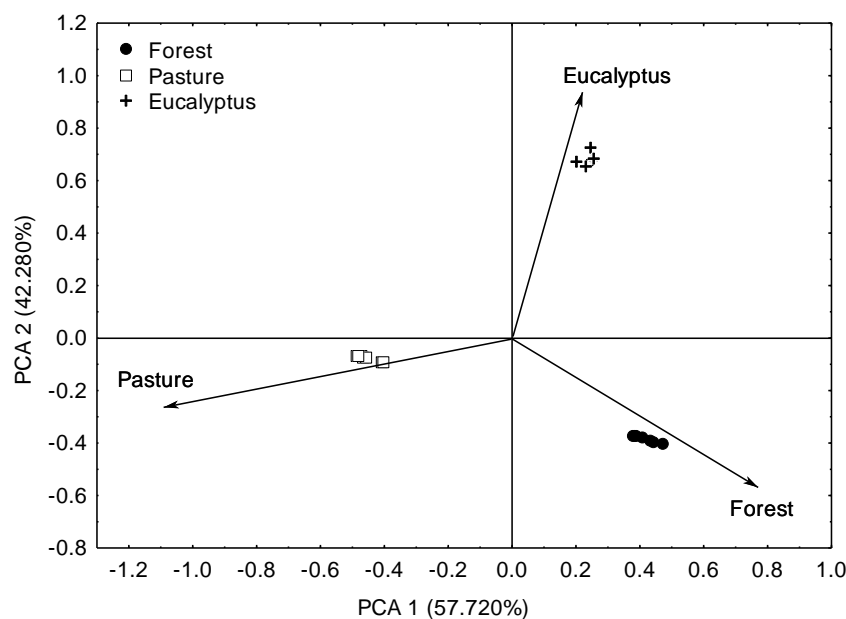


Fig. S1. Principal component analysis (PCA) performed for each category (eucalypts, forest and pasture) considered in the paper. The variables (arrows) are the percentages of the land use and land cover inside the circular buffer of 1000 m.