



# XIII Congresso de ECOLOGIA

## III International Symposium of Ecology and Evolution

Múltiplas ecologias: evolução e diversidade

08 a 12 de outubro de 2017 • UFV - VIÇOSA | MG

### WHERE ARE ROADLESS AREAS IN BRAZIL?

Artur Lupinetti<sup>1\*</sup>, Douglas W. Cirino<sup>1</sup>, Mariana M. Vale<sup>2</sup>, Simone R. Freitas<sup>1</sup>

<sup>1</sup>Centro de Ciências Naturais e Humanas, Universidade Federal do ABC (UFABC), Santo André (SP), 09210-580, Brazil. <sup>2</sup>Departamento de Ecologia, Instituto de Biologia, Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, 21941-590, Brazil. \*Correspondence to artur\_lupinetti@hotmail.com.

Tema/Meio de apresentação: Biologia da Conservação/Oral

Habitat loss and fragmentation are a major threat for tropical terrestrial ecosystems. The main agent of this threat is the expansion of land use over native vegetation, which is promoted by roads due to improved accessibility. Roadless areas are sites distant from roads influence, representing a more preserved habitats with high relevance to biological conservation. Our aim was to quantify Brazil's roadless areas, and evaluate their relation to natural reserves and land cover and use for each Brazilian biome. To identify the roadless areas we used a GIS software to create distance heat maps from a road map (IBGE). Three heat maps were produced: (1) 1 km and (2) 10 km buffer around only paved roads, and (3) 10 km buffer around all roads. These heat maps were used to find the furthestmost point from the roads for each biome. Regarding paved roads, for 1 km heat map, 95% of Brazil are roadless areas (furthermost point = 944 km) and, for 10 km heat map, 71% are roadless areas (furthermost point = 935 km). Considering the land cover and use on a 10 km radius around the furthestmost point, 56% was covered by native vegetation and 17% by agriculture and cattle raising, in average for Brazilian biomes. All further points were outside natural reserves. Regarding all roads' 10 km heat map, roadless area falls to 42% of the Brazilian territory (furthermost point = 291 km); 70% covered by native vegetation and 27% by water bodies; and most of them inside natural reserves. Because paved roads are only 10% of Brazilian roads, roadless areas considering only them were much larger than when all roads were considered. Roadless areas can be a tool to find remote and more conserved ecosystems and, thus to select priority areas for conservation.

We thank FAPESP for Cirino's IC fellowship and UFABC for all support.