



WHY CAN'T CAMPOS RUPESTRES BE RESTORED?

Soizig Le Stradic 1,2,3, G. Wilson Fernandes 2, and **Elise Buisson** 3

1. University of Liège, Gembloux Agro-Bio Tech, Biodiversity and Landscape Unit, Passage des Déportés, 2, 5030 Gembloux, Belgium, soizig.lestradic@gmail.com, +33(0)4 90 84 38 58.

2. Laboratorio Ecologia Evolutiva & Biodiversidade Instituto de Ciências Biológicas, Universidade Federal de Minas Gerais, 30161-970 Belo Horizonte MG, CP 486, Brazil,

3. Université d'Avignon et des Pays de Vaucluse, IMBE, CNRS, IRD, Aix Marseille Université, France

While numerous techniques have already been tested in temperate zones, restoration experiments in tropical ecosystems, especially in open ecosystems, such as grasslands or savannas, are rare at best. This work aimed to test different methods to restore *campos rupestres*, which are Neotropical altitude grasslands found in the Cerrado biome in Brazil. This ecosystem hosts a huge biodiversity and high levels of endemism. Three ecological restoration techniques were tested to restore areas degraded by quarrying: 1) hay transfer; 2) species translocation; and 3) vegetation turf translocation. One year after the hay was spread, few seedlings were observed and they all belonged to ruderal species already present on the degraded areas. This technique thus did not allow the establishment of target species on degraded areas, although seeds were found in the hay. The second technique also failed: only one species, *Paspalum erianthum*, survived translocation from pristine to both degraded and pristine areas, whereas for the seven other species, root damages which occurred during the translocation probably limited their survival. The third technique, turf translocation, was the most efficient technique since many species, including some regional endemics, were reintroduced to degraded areas. However, due to the low resilience of the *campos rupestres* where turfs were taken, this method can only be considered to save habitats where destruction is inevitable. In face with the difficulty to restore these grasslands, their protection and their conservation must be a priority.