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POTENCIAL DE REGENERAÇÃO NATURAL EM ÁREAS SUBMETIDAS A
DISTÚRBIOS NA REGIÃO DA SERRA DE OURO BRANCO, MG

Tese apresentada à Universidade Federal de Viçosa, como parte das exigências do Programa de Pós-Graduação em Botânica, para obtenção do título de *Doctor Scientiae*.

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RESUMO

LOUSADA, Júnia Maria, D.Sc., Universidade Federal de Viçosa, setembro de 2017. **Potencial de regeneração natural em áreas submetidas a distúrbios na região da serra de Ouro Branco, MG.** Orientador: Sebastião Venâncio Martins. Coorientador: José Marinaldo Gleriani.

Em Minas Gerais, uma importante região econômica e ambiental é o Quadrilátero Ferrífero (QF), área de transição entre os domínios da Mata Atlântica e Cerrado, localizada ao sul da Cadeia do Espinhaço. Recentemente foram criadas duas Unidades de Conservação (UC), o PESOB e o MNEI, com o intuito de conservar a paisagem local e contribuir para a conectividade entre as UCs que formam o mosaico de áreas protegidas no QF. As UCs estão localizadas entre os municípios de Ouro Branco e Ouro Preto, MG. Nessas UCs os principais distúrbios sofridos são incêndios frequentes e a erosão do solo, formando enormes voçorocas, que interferem na estruturação e funcionalidade dos ecossistemas. Nosso trabalho objetivou avaliar a regeneração natural em área de floresta estacional semidecidual montana (FES), atingida por incêndio severo e áreas de voçoroca localizadas em campo rupestre (CR). No capítulo 1 avaliamos duas áreas adjacentes de FES, uma atingida pelo incêndio e a outra servindo de ecossistema referência. A hipótese lançada foi que o fogo comprometeria a riqueza e densidade de espécies arbustiva-arbóreas e assim a resiliência desse local. Amostramos 0,5 ha em cada área, coletando em 25 parcelas o banco de sementes. As amostras foram acompanhadas por 1 ano para identificação das plântulas. Em ambas as áreas a avaliação da composição, estrutura e diversidade do banco de sementes mostrou um comprometimento da resiliência atual dessas áreas, sobretudo a área afetada pelo fogo, que apresentou elevada densidade de espécies herbáceas invasoras. No capítulo 2 e 3 avaliamos a regeneração natural em 6 voçorocas, em estágio médio de cobertura vegetal. Realizamos o levantamento fitossociológico utilizando o método de escala de cobertura e abundância nas parcelas amostradas. Em cada voçoroca amostramos 3 parcelas de 3 x 3 m na área de campo rupestre, do entorno das voçorocas, servindo como ecossistema de referência; e dentro da voçoroca alocamos 5 parcelas de 3 x 3 m em cada um dos dois ambientes, borda (maior declividade) e interior (menor declividade) da voçoroca. Nossos resultados mostraram que as voçorocas alteram a paisagem dos campos rupestres, criando manchas de vegetação arbórea, mais heterogêneas, comparada à matriz do entorno, o Campo Rupestre, demonstrando tendência dessas áreas se tornarem manchas de vegetação florestada. No capítulo 3 avaliamos a influência de elementos da paisagem na regeneração natural das voçorocas. Para isso calculamos a declividade de cada parcela amostrada na

voçoroça, a porcentagem de fitofisionomia ao redor de cada voçoroça, criando um buffer de raio 500 m e avaliamos o solo, quanto as variáveis físico químicas, em cada parcela. As variáveis ambientais apresentaram relações com as variáveis de medida da regeneração natural.

on potencial in áreas undergoing disturbances in the Serra do Ouro Branco region, MG. Advisor: Sebastião Venâncio Martins. Co-advisor: José Márcio Gleriani

Minas Gerais has an important economic and environmental region, the Iva Cosíngulo (IQ), a transition area between the Atlantic Forest and Cerrado, located on south portion of Espinhaço Range. Recently, two Conservation Units (CU), PESOB and MNEJ were created in order to conserve a local landscape and contribute to a connectivity between CUs that form the mosaic of protected areas in IQ. The CUs are located between the municipalities of Ouro Branco and Ouro Preto, MG. In these CUs the main disturbances are frequent fires and soil erosion, forming huge gullies, which interfere in the structuring and functionality of ecosystems. Our work aimed to evaluate a natural regeneration in seasonal forest area (SF), that suffer severe fire accident, and in gullies areas located in rupestrian field (RF). In Chapter 1 we evaluated two adjacent areas of SF, one that has been burned and another serving as reference ecosystem. Our hypothesis was that the fire would compromise the richness and density of shrubby-tree species and thus a resilience of the site. We sample 0,5 ha in each area, collecting in 25 plots, the seed bank. As samples were followed for 1 year to identify the germinated vegetation. In both areas the evaluation of the composition, structure and diversity of the seed bank showed a compromise of the current resilience, especially the burned area, which present a high density of invasive herbaceous species. In Chapter 2 and 3 we evaluated a natural regeneration of 6 gullies, in the middle stage of vegetation cover. We performed the phytosociological survey using a coverage scale method and abundance in the sampled plots. In each gully, 3 plots of 3 x 3 m in the area of rocky field, of the surroundings of the gullies, serving as reference ecosystem, and within the gully we allocated 3 plots of 3 x 3 m in each of the two environments, edge (greater slope) and interior (lower slope) of the gully. Our results showed that as gullies sites a landscape of rupestrian fields, creating more heterogeneous vegetation gains, compared to matrix of the surroundings, the rocky field, showing trend to become island of forested vegetation. In chapter 5 we evaluated the influence of elements of the landscape on the natural regeneration of the gullies. For this, it calculates a slope of each plot sampled in the gully, a percentage of phytosociological around each gully, creating a buffer of radius 500m and evaluate the soil, as well as physical chemical variables, in each plot. As environmental variables presented relations as measurement variables of natural regeneration, however, we suggest that other environmental variables should be included for a better understanding of the process.

ABSTRACT

LOUSADA, Júnia Maria, D.Sc., Universidade Federal de Viçosa, September, 2017. **Natural regeneration potencial in áreas undergoing disturbances in the Serra do Ouro Branco region, MG.** Advisor: Sebastião Venâncio Martins. Co-advisor: José Marinaldo Gleriani

Capítulo 1: Impacto do fogo no banco de sementes de floresta estacional

Minas Gerais has an important economic and environmental region, the Iron Quadrangle (IQ), a transition area between the Atlantic Forest and Cerrado, located on south portion of Espinhaço Range. Recently, two Conservation Units (CU), PESOB and MNEI were created in order to conserve a local landscape and contribute to a connectivity between CUs that form the mosaic of protected areas in IQ. The CUs are located between the municipalities of Ouro Branco and Ouro Preto, MG. In these CUs the main disturbances are frequent fires and soil erosion, forming huge gullies, which interfere in the structuring and functionality of ecosystems. Our work aimed to evaluate a natural regeneration in seasonal forest area (SF), that suffer severe fire accident, and in gullies areas located in rupestrian field (RF). In Chapter 1 we evaluated two adjacent areas of SF, one that has been burned and another serving as reference ecosystem. Our hypothesis was that the fire would compromise the richness and density of shrubby-tree species and thus a resilience of the site. We sample 0.5 ha in each area, collecting in 25 plots, the seed bank. As samples were followed for 1 year to identify the germinated vegetation. In both areas the evaluation of the composition, structure and diversity of the seed bank showed a compromise of the current resilience, especially the burned area, which present a high density of invasive herbaceous species. In Chapter 2 and 3 we evaluated a natural regeneration of 6 gullies, in the middle stage of vegetation cover. We performed the phytosociological survey using a coverage scale method and abundance in the sampled plots. In each gully, 3 plots of 3 x 3 m in the area of rock field, of the surroundings of the gullies, serving as reference ecosystem; and within the gully we allocated 5 plots of 3 x 3 m in each of the two environments, edge (greater slope) and interior (lower slope) of the gully. Our results showed that as gullies alter a landscape of rupestrian fields, creating more heterogeneous vegetation stains, compared in matrix of the surroundings, the rocky field, showing trend to become island of forested vegetation. In chapter 3 we evaluated the influence of elements of the landscape on the natural regeneration of the gullies. For this, it calculates a slope of each plot sampled in the gully, a percentage of phytophysiology around each gully, creating a buffer of radius 500m and evaluate the soil, as well as physical chemical variables, in each plot. As environmental variables presented relations as measurement variables of natural regeneration, however, we suggest that other environmental variables should be included for a better understanding of the process.