

**TITLE:** PROSPECTION OF ARBUSCULAR MICORRHYTIC FUNGI IN FERRUGINOUS AND QUARTZITIC FIELD OF RUPETRIAN AREA.

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The extraction of iron ore increases the risks for the degradation of the local vegetation and emphasizes the need of selection by vegetal species able to at reestablishing native vegetation the impacted areas. In this process of rehabilitation, the interaction of plants with microorganisms is of paramount importance. Prospecting microorganisms, especially arbuscular mycorrhizal fungi (AMF) may be an essential component in the ecological process of recovery of degraded areas. AMF have the capacity to increase plant adaptation to different ecosystems, increase biotic and abiotic stress tolerance, and increase water and nutrient absorption. Therefore, the objective of this work was to perform a survey in areas of quartzite and ferruginous rock fields regarding different morphotypes and amount of AMF spores, as well as to evaluate the presence of mycorrhizal colonization in native plants of each area. The quartzic and ferruginous ruprestre field areas are located in the municipality of Conceição do Mato Dentro, MG. Four samples of 1 kg soil were collected per area, as well as the root system of the plants *Velloziascabrosa*, *Tibouchina* sp., *Stachytarpheta glabra*, *Vellozia minima*, *Helichrysum bracteatum* and *Pseudobombax campestre*. The spores were extracted from 100 cm<sup>3</sup> of soil per sample by the wet sieving technique, followed by centrifugation in water and then in 45% sucrose solution. Subsequently, the spores were quantified followed by morphotype separation in relation to their size, shape and color. The roots were diaphanized in 10% KOH for 12 h followed by washing with running water and subsequent acidification in 2% HCl for 5 m. Then the root fragments were stained in trypan blue in lactoglycerol (0.05%), proceeding to the observation of fungal structures by the method of checkered plate. Regarding the number of spores, there was no difference between the two areas with an average of 400 spores / cm<sup>3</sup> of soil. 28 spore morphotypes were observed in the ferruginous rupestrian field area and only 15 in the quartzitic rock field, with only 7 being observed in both areas. There was great variation among plants in relation to mycorrhizal colonization, presenting from 11% for *Velloziascabrosa* to 97% for *Stachytarpheta glabra*. It is of great importance to characterize AMF diversity and to understand the relation of native plants to these fungi so that management strategies are traced to the recovery of areas degraded by iron mining.

**Keywords:** Arbuscular Mycorrhizal fungi, Rocky ground, Recovery of degraded areas, Mycorrhizal colonization.

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