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Endophytic communities associated with Aspidosperma spp. (Mart.)

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Endophytic fungi are microorganisms that live in intercellular plant tissue without causing apparent negative effects for the host [1]. They are ubiquitous in nature and, within medicinal plant tissues, are able to produce a wide range of metabolites, with interesting biological activities [2]. The aim of this study was the prospection of endophytic communities associated with the medicinal plant Aspidosperma spp. (Mart.). Fifteen adult specimens were collected from wild plants of Aspidosperma spp. in a private property in Jaboticatubas, Minas Gerais, Brazil (19° 30' 49" S, 43° 44' 42" W), in order to perform sampling events of leaves and barks, in January and August, 2015, respectively. The samples were stored at 4°C until processing. Both leaves and barks were cut into 5-mm-long fragments, which were surface sterilized by immersion in 70% ethanol (1 min) and 2% sodium hypochlorite (3 min), followed by a rinse with sterile distilled water (2 min). The fragments were plated on Potato Dextrose Agar (PDA, Himedia) supplemented with chloramphenicol (200 µg/ml) (Sigma). The plates were incubated up to 60 days at 25°C. The hyphal tip of each fungus growing out from the plant tissue was excised and purified. To verify the effectiveness of the surface sterilization, the rinse water was also plated and incubated following the same conditions. For long-term storage, endophytic morphotypes were cryopreserved with 30% glycerol at -80°C as well as kept in sterile distilled water, at room temperature, for further assessments [3]. From 525 plant fragments, it was possible to isolate 116 morphotypes from leaves and 62 from barks, demonstrating the relevant association between endophytic filamentous fungi and this medicinal plant. Ongoing experiments are being carried out by our research group aiming to evaluate whether endophyte extracts from leaf and bark show potential biological activity. This survey provides initial insights into the endophytic communities associated with Aspisdosperma spp.

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