

TRICHODERMA SPECIE DIVERSITY ISOLATED FROM TROPICAL ENVIRONMENT

Santos, L.A.¹; Fernandes, K.R.P.²; Melo, L.S.²; Evangelista, D.E.³; Silva, F.H.³; Pereira, J.O.²; Souza, A.D.L.²; Souza, A.Q.L.^{1,2}

¹University of Amazonas State – UEA (Revenue. Carvalho Leal, 1777, Cachoeirinha, 69065-130, Manaus-AM, Brazil)

²Federal University of Amazonas – UFAM (Revenue. General Rodrigo Octavio Jordão Ramos, 1200- Coroado I, 69067-005, Manaus –AM, Brazil)

³Federal University of São Carlos – UFSCAR (Highway Washington Luís, s/n, 13565-905, São Carlos – SP, Brazil)

ABSTRACT:

The tropical regions has an extremely wealthy and diversity of species with fungus standing out, they are largely allocated in each tropical area. Fungus's species that belongs to the *Trichoderma* genus reproduce themselves asexually and sexually (*Hypocrea*) may be associated to others kind of organisms, which ones can be found living inside of plants and soils of moderate and tropical climates and among other environments. The present study has the objective to gather and characterize through morphometric, macro and micromorphologic isolated analysis of *Trichoderma* kind in different tropical *habitat*, mainly in Amazonas state. These funguses (32 lineages) in a preserved gathering work of Microorganisms Bioassay of Amazonas Laboratory (LABMICRA-CA-UFAM, abbrev. in Portuguese), were reactivated by BDA culture and submitted to 82.4 °F over 3 days. After that, they were resubmitted in triplicate. Then after 8 days, they had their micromorphological characteristics analyzed like shape, texture, verso and reverse color, edge type, presence of color and pigmentation of those colonies. For the morphometric analysis, each colony had their dimensions registered by photos daily in a period of 3 days and during the 8th day of incubation. The micromorphologic aspects were analyzed by the micro cultivation technician about 48 hours and 72 hours growth of strains. Some lineages were also analyzed by DNA sequencing at Its-1 and Its-2 points. Regarding to the radial growth of the isolated ones were registered average dimensions between of 3.2 – 5.4 cm with 24 hours of growth. 11 isolated reached the entire Petri dish extension (8.5 diameter) after 48 hours and started to produce conidia with 72 hours, period of time that the remaining provenance reached the Petri dish border. Within 4 days, some species started to produce diffused pigmentation. Through of the morphologic characteristics that was found, these 32 lineages were gathered into 16 groups. 13 isolated who belongs to a four of these groups were identified by a molecular analysis like *Trichoderma asperellum* (4), *T. harzianum* (7), *T. viride* (1) e *T. koningii* (1). This developed work shows high diversity of *Trichoderma* kind in a small sample of fungus that lives in tropical *habitat*, mainly from

Amazon. Between the lineages identified, stands out the *T. harzianum* kind, which one represents 22% of the whole species that have been studied and 54% of the identified ones.

Keywords: Biological diversity, Fungus, Amazonia.

Development Agency: FAPEAM, CNPQ, CAPES – Pro- Amazonia project