**EVOLUTION OF LICHENICOLOUS FUNGI: A tropical ANDEAN perspective**

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Symbiotic interactions ranging from parasitism to mutualism, including epiphytism, are the rule rather than the exception in the kingdom Fungi. About 2300 fungal species are known to be living obligately on or in lichen thalli. Lichen-inhabiting fungi that reproduce sexually, or asexually, or cause infection symptoms on living lichen thalli (lichenicolous fungi) play an important role in the biology of lichens. Their evolution is tightly and reciprocally connected to the evolution of lichens. However, until now, especially in the tropics, lichenicolous fungi were severely overlooked, and their phylogenetic relationships and evolutionary histories are poorly known. Our research focuses on largely under-investigated lichenicolous fungi from the tropical Andes of Bolivia. To infer the origin and evolution of lichenicolous tropical fungi, we included lichen-inhabiting species within an extensive multi-locus time-scale phylogeny of Dikarya. Our results revealed that tropical lichenicolous fungi are far more phylogenetically diverse than previously reported. We discovered several new lineages and numerous undescribed taxa at the species level and higher taxonomic ranks. Our analyses indicated that Andean lichen-inhabiting fungi are frequently intermixed with fungal taxa that have a wide array of trophic states (e.g., lichenized fungi, saprotrophs, and plant or insect parasites). We also found multiple independent origins of tropical lichenicolous fungi. This suggests that numerous ancestral fungal lineages had the potential to colonize lichen thalli, and that more opportunities were available for this trophic transition as the diversity of lichens increased through time.