**A holistic view of the factors shaping the diversity of the lichen-forming fungal genus *Sticta* (lichenized Ascomycota: Peltigerales) in the Caribbean**

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Phylogenetic analysis in macroevolutionary studies have provided unique insight into evolutionary relationships, ancestral ranges, and diversification patterns in lichenized fungi. Phylogenetic frameworks have also been developed to assess how environmental and/or spatial variables shape species diversity and distribution patterns at different spatial/temporal scales, but lichen studies implementing these approaches are still scarce. Here, we combine phylogeny-based ancestral range reconstruction and diversification analysis with a community phylogenetics approach to reconstruct evolutionary origins and assess patterns of taxonomic and phylogenetic relatedness between island communities of the lichen genus *Sticta* in the Caribbean. Sampling was carried out in the Greater Antilles (Cuba, Jamaica, Hispaniola, and Puerto Rico) and Lesser Antilles (Dominica, Guadeloupe, and Martinique). Data for six molecular loci were obtained for 64 candidate Caribbean species and used to perform both macroevolutionary phylogenetics, which also included worldwide taxa, and phylobetadiversity/clustering analyses, which emphasized island-level communities. Our work uncovered high levels of island endemism (~59%) in Caribbean *Sticta*. We estimate initial colonization of the region occurred about 19 Mya from a South American ancestor. Reverse migration events by Caribbean lineages to South America were also inferred. We found no evidence for increase in diversification rates associated with range expansion into the Caribbean. Taxonomic and phylogenetic turnover was most strongly correlated with climatic changes rather than with geographic distance. We observed less dissimilarity among communities from the Dominican Republic and Jamaica than between these islands and the Lesser Antilles. High levels of hidden diversity and endemism in Caribbean *Sticta* reaffirm that islands are crucial for the maintenance of global lichen biodiversity. Strong evolutionary links exist between Caribbean and South American biotas but at the archipelago scale, species assemblages exhibit complex taxonomic and phylogenetic relationships that are determined by local environments and shared evolutionary histories.