**MUDANÇAS DEMOGRÁFICAS SÍNCRONAS PROMOVIDAS PELA DINÂMICA CLIMÁTICA EM SAPOS MICROENDÊMICOS NAS MONTANHAS DA MATA ATLÂNTICA**

**Synchronous demographic changes promoted by climate dynamics in microendemic frogs across Atlantic Forest mountains**

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The Atlantic Forest, which is characterized by having complex topographical features with high levels of environmental heterogeneity, harbors the highest number of endemic species within Neotropical region. The mountain ranges that run parallel to the Atlantic coast of Brazil exhibit considerable variation in vegetation types, allowing for a wide range of different habitats and microhabitats. The southern Atlantic Forest mountains has experienced marked Quaternary climatic oscillations with high rates of biome shifts and rapid forest recovery. These dynamics support the hypothesis that small pockets of suitable habitat my persist as forest microrefugia over time, particularly in montane regions. These complex environmental dynamics have led to considerable differences across the southern Atlantic Forest mountains in terms of the amount of genetic diversity between and within species, as well as instances of narrow endemism. Here, we use genomic data to elucidate the evolutionary processes of three species of endemic toadlets of *Brachycephalus* genus (*B. mariaeterezae, B. olivaceus,* and *B. verrucosus*) with a sky-island distribution. Population genetic inference suggests a scenario of four structured populations connected by a complicated history of admixture and introgression. Periods of suitable habitat over the last 5 million years show that the effective population size of populations has undergone events of expansion and contraction. The best scenario to explain this pattern is related to cyclical periods of climate change that allowing gene flow and connectivity among populations. These results suggest that cyclical climatic changes drove population divergence and persistence in the endemic frogs of the southern Atlantic Forest mountains.

**Keywords:** Gene flow; Hybrids; Introgression; Population expansion