

Time-dependent diversification under high species turnover shapes species richness disparities among tropical rainforest lineages of *Bulbophyllum* (Orchidaceae) on a global scale

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Tropical rainforests (TRFs) harbour almost half of the world's vascular plant species diversity while covering only about 6–7% of land. However, why species richness varies among the Earth's major TRF realms [i.e. tropical America: c. 93,500 spp.; Asia-Pacific region: 61,700; mainland Africa/Madagascar: 20,000] remains poorly understood. Here we investigate the evolutionary processes shaping continental species richness disparities of the pantropical, epiphytic and mostly TRF-dwelling orchid genus *Bulbophyllum* (c. 1962 spp. in total; Asia: c. 1570 spp.; Madagascar: 212; Africa: 84; Neotropics: 96) using diversification analyses based on a time-calibrated molecular phylogeny (containing c. 13.25% of extant species), coupled with ecological niche modelling (ENM) of geographic distributions under current and past (last glacial maximum) conditions. Our results suggest that the variation of species richness among regional TRF lineages of *Bulbophyllum* is best explained by a time-for-speciation effect rather than differences in net diversification rates or diversity-dependent diversification due to current or past spatial-bioclimatic limits. Why these lineages diversify under high rates of speciation and extinction (i.e. high species turnover) deserves further study but might relate to various intrinsic features commonly invoked to foster rapid population turnover in tropical orchids (e.g., epiphytism, specialization on individual pollinators and mycorrhizal fungi, resource-limited reproduction).