**Ecomorphological Diversification in the Lost World**

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The selection factors determining niche specialization and community assembly evolution have long been contemplated by community ecologists. While competition appears to be a driving force, many other alternative forces can also impact community assembly. Examples range from resource availability to resource distribution, niche availability, and total geographic area. More specifically, it has been shown that smaller environments with less resources select for generalized niches, as does less interspecies competition. In contrast, it has been suggested that niche specialization is foremost limited by evolutionary time, however this is masked by immigration in most communities. The Mazaruni River in Guyana offers an excellent opportunity to determine the impact of such selection factors on community ecology, as the upper portion has been geographically isolated by rapids for many years. This has resulted in an absence of immigration and emigration in the river, creating a different population structure than the nearby rivers, and presumably much less competition. To determine the impact of this isolation on community assembly and niche evolution, a Principal Component Analysis (PCA) was performed on ecologically relevant morphological traits to reduce the data to fewer axes that represent the majority of morphological variation. This was used to determine the distribution of the community within morphospace, and subsequently the ecological niches occupied by different species by comparison with habitat data. The resulting distribution was compared with a PCA previously performed on a nearby non-isolated community to determine the difference in occupied niches and niche size, and subsequently the impact of isolation on these factors.