# Diversity and niche segregation among montane amphibians from the Reserva La Forzosa (Anorí, Antioquia, Colombia)

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**Abstract**

The northern Central Cordillera of the Andes in Colombia contains a diverse anuran fauna that is poorly known and highly threatened due to intensive processes that alter forests in this region. Human activity has created modified habitats that may differ in species composition and abundance. In a one-year study of the La Forzosa Reserve (Anorí municipality, Antioquia), differences in species richness, composition, and abundance was studied in two anuran assemblages in two premontane forests (highly impacted primary forest and tall scrub forest) that differed in vegetative structure (complexity and heterogeneity), with the less perturbed forest exhibiting more variable arboreal vegetation but more homogeneous herbaceous vegetation. Although species richness did not differ (14 species each), the less perturbed forest was more diverse with greater species evenness, while the other forest was dominated by two species (*Eleutherodactylus factiosus* and *E. viejas*). In general, the anuran fauna of the area was dominated by *Eleutherodactylus* and centrolenid species, a typical pattern for Andean forests, presumably due to the relative absence of lentic water bodies and presence of streams. Three niche axes were quantified (activity period and habitat and microhabitat use) by means of a pseudocommunity analysis (null model) in order to inspect for ecological segregation among the anuran species in the assemblage (irrespective of forest type). Activity periods overlapped broadly among most species, with the majority nocturnal and a few strictly diurnal (*Ranitomeya opisthomelas* and *E. mantipus*) or occasionally diurnal. With respect to habitat and microhabitat, there also was no evident spatial segregation, and the null model analysis showed no significant differences among the species, although there was a suggestion that diurnal leaf litter species and principally nocturnal perching species differed and that species confined to the forest interior were more generalists than riparian species. However, in both groups there was considerable overlap in habitat use. In conclusion, the anuran species in this assemblage appear to be using the resources quantified in this study without evidence of effects of interspecific competition for them.

**Key-words*:*** Andean forest, Antioquia, Anura, Colombia, Cordillera Central, habitat, microhabitat, niche segregation, spatial resource use, species richness

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