

**SPECIES COMPOSITION, DIVERSITY, ABUNDANCE, AND
MICROHABITAT PREFERENCES OF ANURAN SPECIES
IN THE MIRAL RIVER, BANSALAN, DAVAO DEL SUR**

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ABSTRACT

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A comprehensive anuran survey was conducted across three sites along the Miral River in Bansalan, Davao del Sur—Barangay Managa (upstream), Barangay Tubod (midstream), and Barangay Poblacion Uno (downstream). Using 270 man-hours of cruising and mark-release-technique, the survey documented anuran species, assessed habitat associations, and generated baseline data on Mindanao's amphibian diversity. A total of 104 anuran individuals were recorded, representing six species and four families, with 67% being non-endemics and 33% endemic to the Mindanao faunal region. *Limnonectes magnus* was noted as nearly threatened. Species diversity was highest upstream ($H' = 1.52$, $S = 6$), moderate midstream ($H' = 1.05$, $S = 4$), and lowest downstream ($H' = 0.43$, $S = 2$), but were not statistically significant ($p = 0.2193$). While species composition varied between sites ($p = 0.1875$). Most anurans utilized both aquatic and terrestrial microhabitats, indicating microhabitat overlap. This study revealed that *Rhinella marina* was strongly linked to warmer water,

higher pH, and elevated air temperature—conditions typical of downstream habitats. Conversely, upstream habitats, with dense canopy, abundant moss, leaf litter, and minimal disturbance, supported species like *Polypedates leucomystax* and *Kaloula pulchra*. Obviously, principal component analysis revealed that elevation was the most influential environmental factor with strong association habitat variables affecting anuran preferences. Endemic species were associated with intact forest areas, though signs of forest clearing for agriculture indicated environmental stress. The dominance of invasive species and the low presence of the near-threatened *Limnonectes magnus* underscore the urgent need for conservation efforts to protect native amphibians and restore natural habitats in the Miral River ecosystem.

Key words: distribution, habitat cultivation, environmental gradients, invasive species, conservation

SDG's: 6 Clean water and sanitation, 15 Life on land