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Advances in the Studies on Evaluation of Diversity and Habitat Preferences of Amphibians of Nigeria

Authors : Md Mizanur Rahman, Lotanna Micah Nneji, Adeola C. Adeniyi, Edem Archibong Eniang, Abiodun B. Onadeko, Felista Kasyoka Kilunda, Babatunde E. Adedeji, Ifeanyi C. Nneji, Adiaha A. A. Ugwumba, Jie-Qiong Jin, Min-Sheng Peng, Caroline Olory, Nsikan Eninekit, Jing Che

Abstract : Nigeria contains a number of forest habitats that believed to host highly rich amphibian diversity. However, a dearth of herpetological studies has restricted information on the amphibian diversity in Nigeria. To cover the gap of knowledge, this study focused field surveys on relatively less studied forests–Afi Forest Reserve and Ikpan forest ecosystem. The goal of this study is to make a checklist and to investigate the habitat preferences of amphibians in these two forests. The study areas were surveyed between August 2018 and July 2019 following visual and acoustic methods. Individuals were identified using the morphological and molecular (16S ribosomal RNA) approach. Literature searches were conducted to document additional species that were not encountered during the current field surveys. Using the observational records and arrays of diversity indices, the patterns of species richness and abundance across habitat types were evaluated. Voucher specimens and tissue samples were deposited in the museums of the Department of Zoology, University of Ibadan Nigeria, and the remainder at the Kunming Institute of Zoology (KIZ), Chinese Academy of Sciences, Kunming, China. The result of this study revealed the presence of 30 and 31 amphibian species from the Afi Forest Reserve and the Ikpan Forest Ecosystem, respectively. There were two unidentified species from AFR and one from IFE. In total, 324 individuals of amphibian species were observed from the two study areas. Forest and swamps showed high species diversity and richness than the agricultural field and savannah. Savannah and agricultural fields had the highest similarity in the species composition. Given the increased human disturbances and consequent threats to these forests, this study offers recommendations for the initiation of conservation plans immediately.

Keywords : biodiversity, conservation, cryptic species, ecology, integrated taxonomy, species inventory
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