

Research Article

Seasonal Distribution of Hoolock Gibbons (*Hoolock hoolock*) in Karbi Anglong District, Assam, Northeast India: Special Reference to the Marat Longri-Patradisa-Longnit Forest Complex

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ABSTRACT

This study provides a detailed seasonal evaluation of the population dynamics of the Western Hoolock Gibbon (*Hoolock hoolock*) within the Marat Longri–Patradisa–Longnit Forest Complex over a one-year period (September 2023 to August 2024). Systematic field surveys were conducted across four distinct seasons—post-monsoon, winter, pre-monsoon, and monsoon—covering seven Reserve Forests (RF) and District Council Reserve Forests (DCRF). Quantitative metrics including encounter rate, population density, group density, mean group size, sex ratio, and coefficient of variation were analyzed to assess temporal fluctuations in group composition and distribution. Disama RF consistently exhibited the highest population densities and reproductive activity, whereas Longnit RF showed a persistent absence of detections, suggesting possible local extirpation or habitat degradation. The pre-monsoon season registered the highest encounter rate and population density, likely facilitated by increased vocalization and detectability. Conversely, the monsoon season demonstrated the lowest mean group size amidst heavy rainfall and dense canopy cover. Sex ratios remained balanced throughout the study period. The high coefficient of variation (>70%) in group size highlights considerable variability in social structure, potentially influenced by ecological and anthropogenic factors. These findings emphasize the necessity of seasonally stratified monitoring to accurately characterize primate populations and inform effective conservation strategies within fragmented forest landscapes.

Key words: Hoolock Gibbon, Primate, Karbi Anglong, Seasonal Distribution, GIS

