

ECOLOGICAL NICHE MODELLING OF THE SMALL APES – CONSTRAINTS ON GIBBON DISTRIBUTION AND HABITAT

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Recent approaches to population biology have emphasized the constraints on group size e.g. time devoted to social interactions as well as the more conventional constraints such as climatic conditions and nutritional intake. Gibbons represent a unique taxa within the apes in order to investigate the influence of various variables on group size and distribution. Gibbons range from southern China to Java (Indonesia) and are the most specious and widely distributed of all the apes. There are 16 recognised species and, unlike African apes, their group sizes are relatively consistent throughout their range (2-7). Here we present data from 13 species across 48 sites. Data from 101 variables were compared to determine which variables constrain gibbon distribution and group size. By looking at group size as a response to the 101 variables we will identify the optimum range for gibbon groups. Due to the consistency of gibbon group size, it is possible that gibbons are already at their minimum viable group size. These data may also offer some clues as to why gibbon social structure is so rigid across their extensive range. By identifying the optimal range of habitats in which gibbon species can cope, we can predict the impact of changing climatic and environmental conditions on gibbon distribution. Understanding the niche constraints of gibbons may also offer new information on gibbon evolution both of morphology and social structure.

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