

ASSESSMENT OF LONG-TERM CHARACTERISTICS OF HOME RANGE USE AMONG WHITE-HANDED GIBBONS (*HYLOBATES LAR*) IN KHAO YAI NATIONAL PARK, THAILAND

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While it has been suggested that home range size in primates is a function of group size, this hypothesis has yet to be tested among wild white-handed gibbons. Our study examined spatial characteristics of range use in one group during three two-month study periods spaced across ten years. Range size was calculated using the minimum convex polygon method. In 1994, the range area was 21.1 hectares (ha). In 2002 it increased 25.4% to 26.5 ha and in 2004 it decreased 4.9% to 25.2 ha. Location was also analyzed and remained consistent. Specifically, the area shared by all three study periods was 20.2 ha and represented from 76.3% to 95.7% of the individual study period home range areas. These findings suggest that while moderate changes in peripheral areas may occur, the home range remains relatively stable over time. Furthermore, range size appears to vary independently of group composition. During the first period, the study group consisted of five individuals. In 2002, following a mate change, the group consisted of only two adults, but two years later, two additional adults joined the group. Yet despite changes in group size and potential for enhanced territory defense, home ranges did not change substantially. Average daily path lengths exhibited a similar pattern to range size (1994, 1.32 km/day; 2002, 1.87 km/day; 2004, 1.52 km/day) suggesting that this variation may be the result of inter-annual differences in resource abundance, rather than group size. The implications for conservation will also be discussed.

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