

**PARTNERS AS A SCARCE RESOURCE IN KHAO-YAI WHITE-HANDED GIBBONS**

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Gibbons are known to commonly live in socially monogamous groups containing a single adult male and single adult female. At Khao Yai National Park in Thailand, however, groups of two adult males and one female are also regularly formed. The reasons for this flexibility are still largely unclear. Although we found support for an ecological basis for this phenomenon in a previous study, alternative interpretations have not yet been ruled out. Here, I examine if multimale groupings may be related to female scarcity by analyzing demographic records of 14 habituated white-handed gibbon groups (1992-2008). Male immigration predominantly resulted in the resident males' replacement as the females' primary partner (88%, n=17). Ten times (59%) male immigration lead to the formation of multimale groups but otherwise the resident male was ousted. In contrast, all except one of the immigrant females (n=8) were intolerant of resident females. Male and female immigrations were forceful, involving chases and contact aggression, except when individuals were related (presumed brothers [n=1]; social father-son pair [n=2]). Only once did a new group form from two dispersing individuals moving into an unoccupied area, but otherwise new group formations resulted from replacement of a breeding adult. Despite some variation in dispersal and migration patterns, I conclude that in a saturated habitat like Khao Yai with a relatively high population density of ~15 individuals per km<sup>-2</sup>, it is likely that maturing individuals face seriously limited dispersal and breeding opportunities and that this scarcity may be a social factor facilitating the formation of multimale groups.

**Keywords:** Gibbon, Multimale, Partner Scarcity, Replacement