Brief Report

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Helping Behaviour in Captive Pileated Gibbons (*Hylobates pileatus*)

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Introduction

Helping behaviour, defined as the care of offspring by individuals other than their parents, appears to be particularly common in monogamous mammals [1]. Although all gibbon species typically live in monogamous family groups, there are extremely few observations of helping behaviour (usually in the form of carrying younger siblings) [2].

This paper reports on helping behaviour observed in a captive family group of pileated gibbons (*Hylobates pileatus*) at the Zürich Zoo. These observations were made during a study on the behavioural development of an infant pileated gibbon reared in its natal group during its first year of life [3].

Material and Methods

The family group studied was kept in an indoor cage (base area of 18 m^2 x height of 5 m), with additional access during warm weather to an outdoor cage (30 m^2 x 4.6 m). Both cages had ropes in addition to horizontal, vertical and oblique bamboo poles. The family group had the following composition: (1) Iaman, adult male, wild-born, about 33 years old at the beginning of this study; (2) Iba, adult female, wild-born, at least 15 years old at the beginning of this study; (3) Quang, juvenile male, born at the Zürich Zoo on July 11, 1990; and (4) Tuk, infant female, born on June 26, 1993. The group was observed by one of us (C.B.) from August 13, 1993, to June 26, 1994, i.e. when the infant was aged between 7 and 52 weeks (with gaps when the infant was 16-17 and 36-39 weeks old). The gibbons were observed once a week between 08:30 and 16:30 h. Observation sessions lasted 4 h. Total observation time amounted to 156 h. The behavioural variable 'being carried' [4] was collected with the scan sampling method using instantaneous sampling [5] and was recorded every 30 s. The number of occurrences in percent of the total number of sample points was used as a direct estimate of the time the infant was carried.
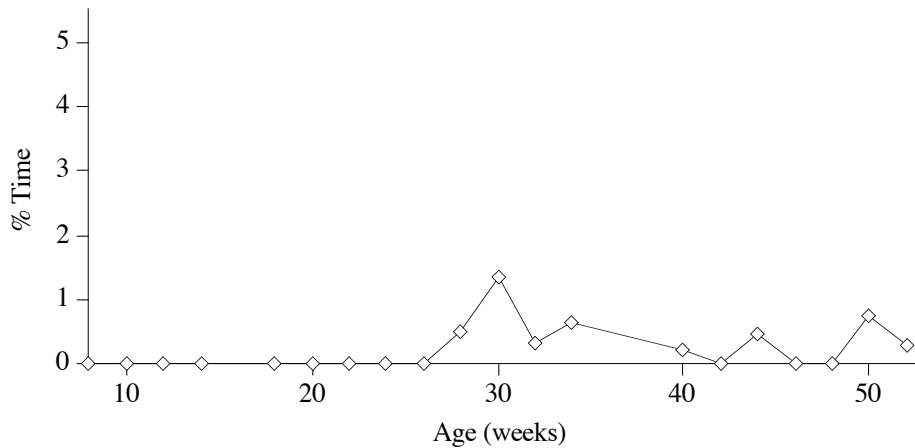
Fig. 1. Percentage of time the infant was carried by its older brother Quang.

Results

During the study period, the percentage of time the infant was carried by the mother decreased from 100% to about 50% (Spearman rank correlation coefficient $r_S = -0.93$, $p<0.0001$). The infant was never observed being carried by its father, but when the infant was 29 weeks old, it was first observed being carried by its older brother Quang. The percentage of time the infant was carried by its brother reached its highest level (1.4%) in the following week and decreased slightly afterwards (fig. 1). In contrast to the infant-carrying exhibited by the mother, the juvenile male carried the infant only for brief periods (less than 2 min at a time). Occasionally, he took the infant directly from the mother, but usually he would pick it up when it was alone. When attempting to take the infant over from the mother, Quang put an arm around the infant and tried to loosen it from its mother. These attempts were rarely successful, however, because Iba was reluctant to let him take the infant. Only on a few occasions was he allowed to take the infant without opposition from the mother. When Quang picked up the infant while it was alone, the mother rarely showed any reaction.

Discussion

The infant's older brother Quang was repeatedly observed carrying the infant during the second half of this study, albeit for brief periods. Adult captive gibbons of several species have occasionally adopted, and carried around, unrelated infants [6, 7]. Helping behaviour in intact family groups, however, has not been reported previously for gibbons other than siamangs [2, 7], suggesting that this behaviour is either very rare in gibbons or has simply seldom been documented. In our study group, the behaviour appeared to be infrequent because the mother rarely let the juvenile male take the infant away from her. In the event of the mother's death, other members of a gibbon family group may help rear the baby. This interpretation is supported by an early report on a group of feral hoolock gibbons (*H. hoolock*) consisting of an adult male and a 'partially grown' male carrying an infant [8]. This may have been a family group which has lost the adult female [6, 8].

Acknowledgments

References

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