

City University of New York (CUNY)

CUNY Academic Works

Publications and Research

Queens College

2000

Two Takeovers in Wild Hamadryas Baboons

Larissa Swedell

CUNY Queens College

[How does access to this work benefit you? Let us know!](#)

More information about this work at: https://academicworks.cuny.edu/qc_pubs/350

Discover additional works at: <https://academicworks.cuny.edu>

This work is made publicly available by the City University of New York (CUNY).
Contact: AcademicWorks@cuny.edu

Two Takeovers in Wild Hamadryas Baboons

Larissa Swedell

Columbia University and New York Consortium in Evolutionary Primatology,
New York, N.Y., USA

Key Words

Hamadryas baboons · Takeovers · Infant handling · Infant mortality ·
Reproductive condition · Sexual swellings · Female choice

Introduction

Hamadryas baboons exhibit a multi-level social structure in which several one-male units, each consisting of a 'leader' male and one or more females, comprise a 'band' and two or more bands comprise a troop. Cohesion of each one-male unit is maintained by aggressive herding by its leader male [1].

Here I describe the consequences of 2 takeovers in a band of wild hamadryas baboons. I report evidence of infant mortality following takeovers, changes in female reproductive condition within 2 weeks after takeovers, and the reacquisition of a female by a deposed leader male, none of which has been previously reported for wild hamadryas baboons.

Methods

A band of 170 wild hamadryas baboons (*Papio hamadryas hamadryas*), near the Filoha outpost of the Awash National Park, Ethiopia, was observed for a total of 985 h over about 14 months between November 1996 and September 1998. Sampling methods included 30-min female focal samples, 10-min scan samples and ad libitum observations.

KARGER

Fax + 41 61 306 12 34
E-Mail karger@karger.ch
www.karger.com

© 2000 S. Karger AG, Basel
0015-5713/00/0713-0169\$17.50/0

Accessible online at:
www.karger.com/journals/fpr

Larissa Swedell
Department of Anthropology, Columbia University
1200 Amsterdam Avenue, E-Mail Code 5523
New York, NY 10027 (USA), Fax +1 212 854 7347
E-Mail LS111@columbia.edu, filoha@yahoo.com

Results

At least 5 takeovers occurred between November 1996 and September 1998. Of these, 2 occurred on days that the group was under observation.

Takeover No. 1: December 1996

SYL was the leader of 5 females: DOT, BEA, HAZ, WHO and IRM. BEA had a black infant, and DOT was pregnant.

December 7. SYL exhibited unusual postural behavior and had dried blood on his torso and legs, indicating a possible injury.

December 8. DOT was sitting spatially within FEL's unit (consisting of FEL and 4 females).

December 9. SYL was lying face down, alone, on a cliff ledge. FEL then arrived with his own 4 females as well as DOT, BEA and HAZ, whom he had taken over. Of SYL's remaining 2 females, WHO had been taken over by a solitary subadult male (IKE), and IRM had been taken over by an unknown male (because this takeover occurred near the beginning of the study period, many individuals in the group were not yet known).

December 20. BEA had a sexual swelling and HAZ was starting to develop one. BEA's infant had disappeared.

December 25. BEA and HAZ were both fully swollen and copulating with FEL. WHO was fully swollen and copulating with IKE. DOT, however, had returned to SYL, the deposed leader male, and was never observed to interact with FEL again. No fighting between SYL and FEL had been observed at any time.

January 3. DOT, although pregnant and not swollen, was seen copulating with SYL.

January 6. DOT had a small sexual swelling and was again observed copulating with SYL.

February 27. DOT gave birth to an infant, which had presumably been sired by SYL 6 months earlier. DOT stayed with SYL, and BEA and HAZ stayed with FEL, for at least 5 months afterwards. WHO stayed with IKE for at least 21 months afterwards.

Takeover No. 2: September 1998

BRU was the leader of CAR, LID, RAL, GLO and JAN. RAL had a 6-week old female infant.

September 15, 7.00 a.m. BRU had suffered an injury that prevented him from defending his females and had consequently lost all 5 females to other males. CAR, LID and RAL had been taken over by 3 other leader males in the group, DAR, EMI and JUP, respectively, each of whom already had 2 females; GLO had been taken over by a solitary male (PLU), and JAN was not seen again.

8.00 a.m. RAL's infant was taken from her by a solitary subadult male, who played with the infant for at least an hour and a half without returning it to her. RAL's new leader male, JUP, neither defended the infant nor tried to retrieve it (as leader males typically do), and the infant probably died (from dehydration) shortly thereafter.

9.00 a.m. BRU traveled with the group to about 1 km away from the sleeping cliff, where he fell behind and later died (at 1.30 p.m. that day). Because this was the last day of observation, the further consequences of this takeover are not known.

Discussion

Both takeovers were preceded by an apparent injury to the leader male. SYL's injury was probably inflicted by another male (IKE, based on prior observations), and BRU was probably bitten by a snake (inferred from lack of blood or wounds and his age and apparent health). In each takeover, 3 females were taken over by other leaders and 2 females were taken over by solitary or unknown males. This contrasts with previous reports of takeovers in wild hamadryas baboons, which have indicated that most females are taken over by solitary or follower males [1–3].

Infant Mortality

Of the 2 infants of females involved in the takeovers, BEA's died within 11 days of the takeover, and observations suggest that RAL's infant died as well. Infanticide following unit takeovers occurs in captive hamadryas baboons [4–6] but has not been reported for wild populations. While there is no evidence in this case to suggest deliberate infanticide, it appears that hamadryas infants may easily be kidnapped by other males and may die from dehydration or injury if the leader does not defend them.

Changes in Reproductive Condition

Of the 4 females in takeover No. 1 that were observed on days subsequent to their takeover, 3 females, one of whom was lactating but whose infant had died, developed sexual swellings within 2 weeks of the takeover. The fourth female developed a small swelling and copulated 2 weeks after she had returned to her previous leader, despite the fact that she was pregnant at the time. Similar changes in reproductive condition following takeovers have been reported for captive hamadryas baboons [7].

Reacquisition of a Female

One female returned to her previous leader 2 weeks after being taken over. Observations suggest that the defeated leader male did not fight to regain his female but that the female returned to him on her own accord. Such a reacquisition of a female by a defeated leader male has not been previously reported for hamadryas baboons. In this case, it may be related to the fact that the female was pregnant at the time of the takeover. It is probably advantageous to a female to return to the male who fathered her unborn infant so as to ensure his contribution to the infant's protection and survival. Female choice may thus play a role in takeovers in hamadryas baboons.

Acknowledgments

For funding, I thank the National Science Foundation (SBR-9629658), the Wenner-Gren Foundation for Anthropological Research, the L.S.B. Leakey Foundation, the National Geographic Society and the New York Consortium in Evolutionary Primatology. For their permission and cooperation, I thank the Ethiopian Wildlife Conservation Organization, Addis Ababa University, and the Awash National Park Baboon Research Project. For logistical support, I thank Clifford Jolly, Jane Phillips-Conroy, Minda Wordofa, Marta Minda, Kebede Yibelendes and Eric Sargis. For helpful comments, I thank Marina Cords, Clifford Jolly and Eric Sargis.

References

- 1 Kummer H: Social Organization of Hamadryas Baboons: A Field Study. Chicago, University of Chicago Press, 1968.
- 2 Sigg H, Stolba A, Abegglen J-J, Dasser V: Life history of hamadryas baboons: Physical development, infant mortality, reproductive parameters and family relationships. *Primates* 1982;23:473–487.
- 3 Abegglen J-J: On Socialization in Hamadryas Baboons. London, Associated University Presses, 1984.
- 4 Rijksen HD: Infant killing: A possible consequence of a disputed leader role. *Behaviour* 1981;78:138–168.
- 5 Gomendio M, Colmenares F: Infant killing and infant adoption following the introduction of new males to an all-female colony of baboons. *Ethology* 1989;80:223–244.
- 6 Zinner D, Kaumanns W, Rohrhuber B: Infant mortality in captive hamadryas baboons (*Papio hamadryas*). *Primate Rep* 1993;36:97–113.
- 7 Colmenares F, Gomendio M: Changes in female reproductive condition following male take-overs in a colony of hamadryas and hybrid baboons. *Folia Primatol* 1988;50:157–174.