

Pair bond quality in female homosexual consortships in Japanese macaques (*Macaca fuscata*)

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Background

Japanese macaques (*Macaca fuscata*) are well known to express female homosexual behaviour¹. During the mating season, females form consortships by choosing their preferred partners from both sexes⁵. These sexual relationships last between a few hours up to several days⁶. Over a mating season, a female engages with multiple consort partners⁶. Distinct partner preferences can be observed⁶, indicated by the duration a pair spends in consort and how often it reunites. Only little is known about partner preferences in homosexual pairs and how certain partner qualities influence the stability of a consort.



Homosexual behaviour is sexual!

- they practice kin-avoidance¹
- it is limited to the mating season¹
- it is bi-directional⁷
- it involves genital rubbing⁷



Methods

Study site. Affenberg population in Landskron, Austria with 165 individuals (adult ♂ n = 49, adult ♀ n = 76), kept in a 4ha semi-free outdoor enclosure⁴.

Observations. Data collection during mating season 2019/20, resulting in 126 observation days.

Observations on hetero- & homosexual consortship activity on the group (*ad libitum* & behavioural sampling) and individual level (focal sampling; 20 observation minutes per homosexual pair/day).

Analyses. Consort duration of a pair (PCD) and their recurrence rate (RR) was correlated with the mounting frequency (M), the frequency of pelvic movement (PM), the degree of mutual mounting (MRP) and the time spent in intense body contact (IBC).



Conclusion & Outlook

We found that even in a promiscuous primate species with short-term relationships, partner quality matters: while sexual activity showed no effect, the amount of body contact (huddling/embracing) a homosexual pair shared increased their consort duration and their chance of reuniting.

Whether the same pattern can be observed for heterosexual pairs will be investigated in a proposed PhD project. We also aim to study whether females with clear partner preferences continue their preference for each other in consecutive mating seasons or even outside the mating season.



The Hypothesis:

Variability in female consort stability (duration and recurrence) can be explained by partner qualities shared between a pair, such as intense body contact² and the quantity and mutuality of sexual stimulation³.

Results

We observed 841 consortships, of which 120 were homosexual (female-female). Out of 75 sexually mature females, 46% were in a homosexual consortship at least once and 30 different female-female pairs were observed.

No correlation was found between sexual stimulation (M, PM, MRP) and either of our pair bond stability variables (PCD & RR; Fig. 1.).

Both the pair bond stability variables (PCD & RR) correlated with intense body contact (IBC; Fig.1.). Pairs that spent more time huddling and embracing, stayed in consort longer and reunited more often.

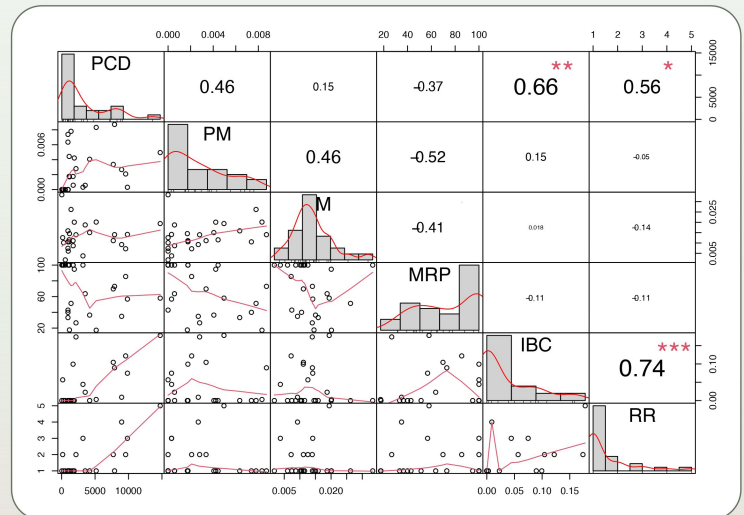


Figure 1. Correlation matrix plot of variables "pair consort duration" (PCD), "pelvic movement mounts/second of consort duration" (PM), "mounts/second of consort duration" (M), "mutuality rate" (MRP), "intensive body contact" (IBC) and "recurrence rate" (RR). Bonferroni corrected significance levels indicated as stars (*: $P \leq 0.05$, **: $P \leq 0.01$, *** $P \leq 0.001$)

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