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## Female choice and sexual coercion in wild orangutans (*Pongo pygmaeus wurmbii*)

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Due to extreme incongruence in parental investment, the potential for sexual conflict in orangutan reproductive strategies is high. Female orangutans prefer flanged males, but with intense male-male competition and sexual coercion, it is unclear how females are able to exert choice. We hypothesized that female orangutans use initiation and maintenance of associations with preferred males as a mechanism of female choice. We used encounter rates and behavioral measures of proximity maintenance to distinguish between the role of female choice and male coercion in male-female associations in Gunung Palung National Park, West Kalimantan, Indonesia. From May 2018-April 2019, we collected data on initiation, termination, and proximity maintenance during associations between males and cycling females (females without dependent offspring or with offspring over 6 years old). Encounters between cycling females and flanged males were more likely to be female-initiated (83.3%), while encounters with unflanged males were more likely to be male-initiated (80%) (N=16, p=0.035, Fisher's exact test). Additionally, the Brown Index indicates significantly more female proximity maintenance when cycling females associated with flanged males than unflanged males (N=33, W = 198.5, p= 0.012). However, using long-term data on male-female associations, we found that dyads of flanged males and females were less likely to encounter other males compared to dyads of unflanged males and females (N=542,  $\chi^2$ = 3.3051, df=1, p=0.035). This indicates that flanged males may also use associations to mate guard females. These data indicate that there are behavioral manifestations of both female choice and male coercion in orangutan associations.

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