



Use and function of genital contacts among female bonobos

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Female bonobos, *Pan paniscus*, show a mounting behaviour that differs physically from that in other primate species. They embrace each other ventroventrally and rub their genital swellings against each other. We investigated five hypotheses on the function of ventroventral mounting (genital contacts) that derive from previous studies of both primate and nonprimate species: (1) reconciliation; (2) mate attraction; (3) tension regulation; (4) expression of social status; and (5) social bonding. We collected data in six field seasons (1993–1998) from members of a habituated, unprovisioned community of wild bonobos at Lomako, Democratic Republic of Congo. No single hypothesis could account for the use of genital contacts, which appeared to be multifunctional. We found support for hypotheses 1 and 3. Rates of postconflict genital contacts exceeded preconflict rates suggesting that the display is used in the context of reconciliation. Rates of genital contacts were high when food could be monopolized and tension was high. However, genital contacts also occurred independently of agonistic encounters. Our study shows rank-related asymmetries in initiation and performance of genital contacts supporting the social status hypothesis: low-ranking females solicited genital contacts more often than high-ranking females while the latter were more often mounter than mounTEE. Although subordinates took more initiative to achieve genital contact, dominants mostly responded to the solicitation (ventral presentation) with mounting, indicating that the performance benefits both individuals. We suggest that genital contacts can be used to investigate both quality and dynamics of dyadic social relationships among female bonobos.

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Recent approaches to explain variation in social systems in nonhuman primates in an adaptive way are based on the socioecological paradigm which implies that relations among females are set by ecological conditions while relations among males are related to mating opportunities (Wrangham 1980; van Schaik 1989; Sterck et al. 1997). van Schaik (1989) proposed that social relations among females are determined by the nature of resource competition. If the distribution of resources allows control of access, competition will be direct by contest, differences in social status are likely to affect accessibility and behaviours signalling dominance become advantageous. In contrast, if access to resources is not limited, competition will be indirect by scramble, differences in social status are less likely to affect accessibility and signals of dominance become less beneficial. In the latest version of the model, female–female relations are evaluated on top of these ecological factors along three interrelated social dimensions (Sterck et al. 1997): (1) intergroup transfer (female exogamy versus female

philopatry); (2) structure of dominance relations (despotic versus egalitarian); and (3) execution of dominance (tolerance versus intolerance). Hence, understanding social relations requires correct interpretation of the significance of behaviours. In some cases, it is relatively simple to detect the nature of a given behaviour. Grooming, play and close spatial proximity are generally considered to reflect affiliative relations while agonistic relations are characterized by frequent displacements, formal displays of dominance and physical aggression. In other cases, the significance of behavioural interactions is ambiguous. One example of the latter is female–female mounting.

Mounting between females is known from insects (Mika 1959; Loher & Huber 1964); birds (Jamieson & Craig 1987; Heg & van Treuren 1999) and mammals (Young 1961; Beach 1968; Parker & Pearson 1976). Interpretations concerning its function range from signalling dominance (Zuckerman 1932; Wickler 1967) to the expression of affiliative relations (Rowell 1966; Chevalier-Skolnikoff 1976; Hausfater & Takacs 1987). In some species, mounting among females may stimulate male–male competition and enhance (or suppress) female

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