

How extra-pair copulations occur in the Northern Goshawk, *Accipiter gentilis*?[Ⓜ]

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Several studies have reported extra-pair copulations (EPCs) in raptors (Sodhi 1991, Birkhead, et al. 1992, Negro et al. 1996). Gavin et al. (1988) captured 103 adult goshawks and 122 nestlings from 64 nests in Arizona, US, and revealed the occurrence of EPC by using allozyme analysis. Rutz (2005) attached radio-transmitters to three breeding males in Hamburg, Germany, and concluded that EPCs involved intruding males.[Ⓜ]

I attached Solar Argos/GPS Platform Transmitter Terminals to 16 Northern Goshawks (5 males and 11 females) in Japan and tracked the birds via satellite. I observed that the females migrated to their wintering grounds that were 193.3 km away, on an average, after their nestlings had fledged. The males, on the other hand, stayed in their territories throughout the year. On the basis of these results, I formulated the following three hypotheses: (1) EPCs occur as a result of female goshawks migrating to their wintering grounds. Females return to their previous year's nests every year through the territories of a bunch of males; this gives the females an opportunity to copulate. (2) Fights can occur when a female returns to the previous year's nest and finds that the nest has been occupied by another female, which is a common occurrence. The winner can stay in the nest, and the losing female has an opportunity to copulate with the territory holder during this period. (3) The loser moves to the territory of another male, and this gives her an opportunity to copulate. Satellite tracking showed that the females frequently changed their nests year after year, with one changing the nest three times in five years and another changing the nest two times for three-year, and two cases changing every year for two-year. I also observed that the males tolerated females that intruded and stayed in their territories frequently.[Ⓜ]

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