

Philopatry and reproductive success in Bornean orang-utans (*Pongo pygmaeus*)

Abstract

Behavioural observations suggest that orang-utans are semi-solitary animals with females being philopatric and males roaming more widely in search of receptive partners, leading to the prediction that females are more closely related than males at any given site. In contrast, our study presents evidence for male and female philopatry in the orang-utan. We examined patterns of relatedness and parentage in a wild orang-utan population in Borneo using noninvasively collected DNA samples from animals observed to defecate, and microsatellite markers to assess dispersal and mating strategies. Surprisingly, resident females were equally as related to other resident females (mean $r(xy) = 0.303$) as resident males were to other resident males (mean $r(xy) = 0.305$). Moreover, resident females were more related to each other and to the resident males than they were to nonresident females, and resident males were more related to each other (and resident females) than they were to nonresident males. We assigned genetic mothers to 12 individuals in the population, while sires could be identified for eight. Both flanged males and unflanged males achieved paternity, similar to findings reported for Sumatran orang-utans.