

Large male proboscis monkeys have larger noses but smaller canines

ABSTRACT

The uniquely enlarged noses of male proboscis monkeys are prominent adornments, and a sexually selected male trait. A recent study showed significant correlations among nose, body, and testis sizes and clear associations between nose size and the number of females in a male's harem. However, to date, the analyses of other common male traits, i.e., canines, are lacking. Whereas male nose size had a positive correlation with body size, we unexpectedly found a negative correlation between body and canine sizes. We explain this by an interaction between sexual and natural selection. Larger noses in males may interfere with the use of canines, thereby reducing their effectiveness as weapons. Additionally, longer canines are opposed by natural selection because the larger gape it imposes upon its bearer reduces foraging efficiency, particularly in folivores. This unique case of decoupling of body and canine size reveals that large canines carry an ecological cost.