



von Hardenberg A., Bassano B., Festa-Bianchet M., Luikart G., Lanfranchi P. and Coltman D. (2007). Age dependent genetic effects on a secondary sexual trait in male Alpine ibex (*Capra ibex*). *Molecular Ecology*. 16:1969-1980.

Secondary sexual traits, such as horns in ungulates, may be good indicators of genetic quality because they are costly to develop. Genetic effects on such traits may be revealed by examining correlations between multilocus heterozygosity (MLH) and trait value. Correlations between MLH and fitness traits, termed heterozygosity–fitness correlations (HFC), may reflect inbreeding depression or associative overdominance of neutral microsatellite loci with loci directly affecting fitness traits. We investigated HFCs for horn growth, body mass and faecal counts of nematode eggs in wild Alpine ibex (*Capra ibex*). We also tested if individual inbreeding coefficients (f') estimated from microsatellite data were more strongly correlated with fitness traits than MLH. MLH was more strongly associated with trait variation than f' . We found HFC for horn growth but not for body mass or faecal counts of nematode eggs. The effect of MLH on horn growth was age-specific. The slope of the correlation between MLH and yearly horn growth changed from negative to positive as males aged, in accordance with the mutation accumulation theory of the evolution of senescence. Our results suggest that the horns of ibex males are an honest signal of genetic quality.

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