

Fetal sex ratios in caribou: effect of maternal age and condition

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Abstract: The fetal sex of 76 Peary caribou (*Rangifer tarandus pearyi*) and 421 barren-ground caribou (*R. t. groenlandicus*) were examined with respect to the ages and physical condition of their dams. There was a high proportion (61 and 62%) of female fetuses in young (1-4 year) female of both subspecies and more males produced by older (>10 years) barren-ground caribou. Maternal physical condition did not affect the sex ratio of fetuses ($P > 0.05$) although indices of condition generally were higher in dams carrying female fetuses than those carrying males. A review of sample sizes required to show deviations from a 50:50 sex ratio indicates that some conclusions about the effects of age and nutritional state of dams on the secondary sex ratios of various species are not statistically sound. The observed sex ratio in caribou makes ecological and perhaps adaptive sense if old females are dominant to younger ones and that behaviour is conveyed to their male offspring.

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