

SUMMARY

The reproductive success in leopards and tigers was compared among 14 zoos over a 30 year period. Birth occurred throughout the year, with a peak in spring and early summer. During the observation period, the overall survival rate of offspring for the leopard was 50.8% and the one for the tiger 47.0%. The sex ratio in both species was nearly 1:1. In both species litters with one cub had a minimal survival rate. The optimal litter size differed between the species, being 2 for leopards and 4 for tigers. The survival rate in indoor cages without visitor access was significantly higher than indoor cages with visitor access.

The two well-defined captive environments, cages I and II, differed in size and the degree of structure (well-structured or poorly structured). No final conclusion about differences in reproductive success could be made in the case of the leopards because of the one-sided distribution of type I. In tigers there was a trend towards a higher reproductive success in type II.

Several parameters of the mating behaviour in leopard (n=8) and tiger (n=5) pairs were investigated in cage types I and II. A high degree of similarity was found between the behavior in both cage types.

The testosterone concentrations in urine of male leopards (n=2) showed seasonal patterns. They were significantly higher during late autumn and winter compared to the rest of the year. No correlations were found between the male's testosterone cycle and the female's estradiol cycle (n=2). Also, no correlations were found between the two leopards' estradiol cycle although they were housed together.

Pregnancy in leopards was discernable on the basis of urine samples.

All the observed estrus data corresponded totally with the endocrinological results.