ABSTRACTS

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The genus *Lynx* includes four species: the Eurasian lynx (*Lynx lynx*), the Canada lynx (*Lynx canadensis*), the Bobcat (*Lynx rufus*) and the probably most endangered felid species of the world listed on CITES Appendix 1, the Iberian lynx (*Lynx pardinus*). The reproductive parameters do not differ between the four species. All except the Bobcat are strict seasonal, monestrous breeders, starting their mating period in January. The Iberian lynx has the narrowest breeding season of about one month, the three other species are less restricted. The bobcat is supposed to be polyoestric till July. It has also the shortest gestation length and can have more than one litter per year. In Iberian and Eurasian lynx, litter sizes of 1-4 kittens were reported. The gestation length is approximately 70 days. In half of females first ovulation occurs at the age of 10 months. First time they mate at age of 22 months and give birth two years old. Male lynxes reach sexual maturity with 3 years. In recent studies in the Eurasian lynx we have shown that male reproduction is also strongly seasonal corresponding to the female estrus. Fecal testosterone concentration, volume of ejaculates, percentages of motile spermatozoa and intact sperm were maximized during breeding season in February/March.

Fecal samples of adult Eurasian and Iberian lynx females were analysed for gestagen (luteal activity during pregnancy) and estrogen (estrus detection) metabolites during three seasons. A typical sexual hormone profile is characterized by an absence of a significant estrogen elevation before mating and a positive correlation between fecal gestagen and estradiol metabolites. Both hormones rise during pregnancy, decrease towards parturition, and increase again during lactation period. Pseudopregnant profiles do not differ from pregnancies, showing also a luteal activity after the suggested birthing time. In both species a pregnancy diagnosis based on fecal and urinary progestins was not possible, since luteal activity was measurable in both, pregnant and pseudopregnant, cycles.

Luteal activity after parturition was confirmed by ultrasonography in June/July and late October/November and by elevated serum levels for progesterone with $3.56 \pm 1.3 \text{ ng} \times \text{ml}^{-1}$ in Eurasian and $6.1 \pm 0.26 \text{ ng} \times \text{ml}^{-1}$ in Iberian lynx, respectively. The existence of active corpora lutea found several months after pregnancy until November is unique for felid species. The ultrasonographical findings on the ovarian structure suggest strongly that the same corpora lutea developed after ovulation in February stay active until the next estrus. Their functional role in lynx reproduction is still unknown.

However, we hypothesize that corpora lutea stay active after birth to support lactation and later on to prevent a new estrus cycle. Elevated progesterone levels throughout the year may turn a normally polyestric cycle in felids in a monestric cycle in the lynx to match the seasonal sperm production in the males.