

11/11/2019

## New method for the reproductive monitoring of collared peccary females (*Pecari tajacu*)



The reproductive biology of collared peccary, a wild species widely dispersed from tropical America to subtropical, is little known and its understanding is essential to optimize the species. The present study shows a simple and non-invasive method, called fPM, which is very useful to gather biological information since it is based on the study progesterone metabolites excreted in the feces. This way, it is possible to perform a hormonal monitoring without the need for captures and restraints that may cause negative effects on the welfare of the animals.

To increase our understanding of reproduction in wild species, it is essential to develop accurate management practices based on the hormonal monitoring. However, sequential blood sampling in wildlife species is usually unfeasible and should be avoided to prevent any negative effect on animal welfare. Developing non-invasive techniques allows gathering biological information from wild species, thus preventing the stress of anesthesia or restraint, which in turn could alter the pattern of hormonal secretion. Monitoring the reproductive function in free-living wild species by progesterone metabolites excreted in feces (fPM) has the potential to provide valuable information, while avoiding the need for captures and/or restraint of free-ranging individuals.

The collared peccary (*Pecari tajacu*) is one of the most frequently hunted species in Latin America because of its traditional use as a source of both food and skins by the local rural people. In recent years, some experiments based on the maintenance in captivity of collared peccaries have been developed, investigating sustainable use of this resource. Knowledge of the reproductive biology of this species is of paramount importance to optimize the species both in captivity and in the wild. However, it is still poorly known and appropriate management practices have not been developed yet for this species.

The present study shows that the analysis of fPM is a simple, non-invasive and useful methodology for the reproductive monitoring in the collared peccary. This study also shows that fPM concentrations can provide an accurate tool for diagnosing late pregnancy and identifying anestrus females. The detection of females in late pregnancy could improve the early post-partum management practices in order to avoid the high rates of neonatal mortality observed at parturition in captive conditions through the implementation of good reproductive practices, such as the isolation of females in late pregnancy stages. The analysis of fPM provides a husbandry tool, which may be used to help understand how social structure may impact reproduction.

Since the pregnancy rate is a key reproductive parameter for determining of hunting sustainability of free-living populations, it is necessary to improve the practice of its methodology and combine multiple low-cost and feasible methodologies to ensure an earlier pregnancy diagnosis.

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## References

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