The change of sexual behavior and progestagen metabolite and estrogen metabolite in fecal sample of captive female dhole in Chiang Mai Province

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Abstract Dholes (*Cuon alpinus*) were animal in family Canidae. The dhole is listed as endangered by International Union of Conservation or Nature and Natural Resources 2009. Little information about the reproductive system of this species is available. The specific objectives of this study were to characterize sex hormone profiles and determine the relationship between progestagen and estrogen metabolites with sexual behaviors in 3 captive female dholes in Chiang Mai Province during February 2008 to February 2009. Two female dholes (age 4 years old) were imported from Europe 3 months prior to the beginning of the study and the remainder (age 7 years old) was born in Thailand. All females were kept with males and fed with fresh chicken once daily. Sexual behaviors were observed and fresh fecal samples were collected 5 to 7 times a week. Fecal progestagen and estrogen metabolites were extracted and analyzed using a validated enzyme immunoassay. There were marked differences in reproductive status between females imported from Europe and that born in Thailand. Reproductive activities of two imported dholes began in January 2009 where the estrogens metabolite levels reach the peak for 9 to 12 days, and followed by the rise in progestagen metabolite. However, reproductive activities of the one born in Thailand appeared to be between April 2008 and September 2008. Elevation of estrogen metabolites above basal values 12 to 13 days was observed, following with the increased in progestagen

metabolites concentration which remained elevated for 77 and 112 days respe ctively. Sexual behaviors were observed when high estrogen metabolites above the basal line were observed in all females. In conclusion, assessments of progesterone and estrogen metabolites in feces for monitoring gonadal activities in the dholes were demonstrated. However, further studies are required to determine breeding season of captive dholes in the Chiang Mai Province.

Keyword: dhole, estrogen, progesterone, sexual behavior