

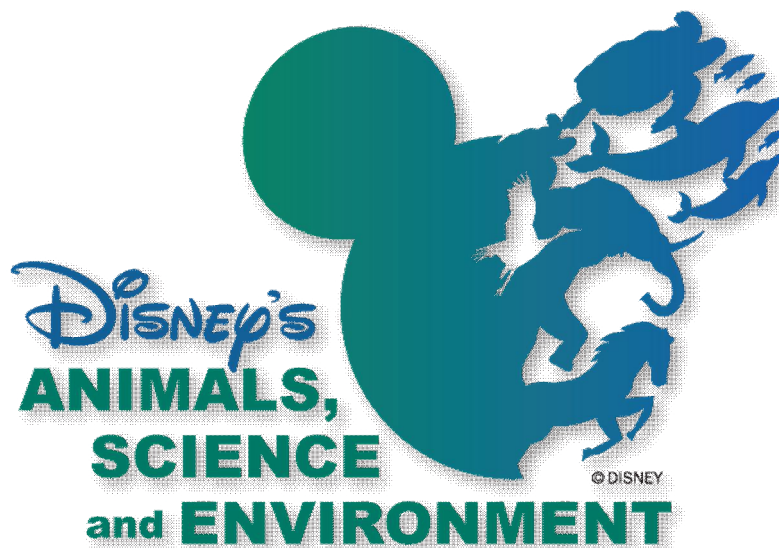
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Abstract #69

Comparative evaluation of gestation in three rhinoceros species (*Diceros bicornis*; *Ceratotherium simum*; *Rhinoceros unicornis*)

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Abstract:

Monitoring progesterone metabolite concentrations is routinely used for diagnosing pregnancy in all species of rhinoceroses kept in captivity. The length of pregnancy ranges from 15 to 16 months. For a precise analysis of gestation data results from almost 20 y of monitoring were comparatively analyzed between the Black Rhinoceros (*Diceros bicornis*), the White Rhinoceros (*Ceratotherium simum*), and the Indian or Greater One-horned Rhinoceros (*Rhinoceros unicornis*). Mean \pm SEM values of gestation lengths for the three species were 463.0 ± 1.71 d; 500.5 ± 1.86 d, and 483.3 ± 2.23 d, respectively. Gestation length varied by 3 – 4 weeks in all three species; confirmed gestation lengths ranged between 452 – 475 d; 490 – 510 d, and 462 – 497 d in the Black, the White and the Indian rhinoceros. Fecal progesterone metabolites were analyzed using established group-specific enzyme immunoassays for 20-oxo-pregnanes in the Black and the White rhinoceros, and 20 α -OH-pregnanes in the Indian rhinoceros. Mean fecal pregnane values from N = 26, 34 and 23 pregnancies for the three species were calculated and revealed considerable differences in the onset of placental steroid production. Mean 20-oxo-pregnane concentrations continuously increased between days 75 – 125 in the Black, and between days 65 – 150 in the White rhinoceros; 20 α -OH-pregnane values in the Indian rhinoceros increased between days 100 – 175. Remarkably, a rather wide range in the onset of placental pregnane production between days 55 – 150 was observed in individual Indian rhinoceroses. In conclusion, long term endocrine monitoring of gestation revealed a high degree of variability in gestation length and endocrine physiology of the three rhinoceros species studied.