BRIEF COMMUNICATION

THE OESTROUS CYCLE OF THE POTTO

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In the course of a study of oogenesis in prosimians, some observations have been made on the oestrous cycle of female specimens of *Perodicticus potto*.

Daily samples of the vaginal fluid were taken for a period of 2 years from each of two mature pottos. The fluid (containing cells of the vaginal epithelium)

TEXT-FIG. 1. Oestrous cycles of two female pottos over a 2-year period of observation. Arrows indicate dates of appearance of sperm in smear. During the period cross-hatched in May and June 1964 the male potto was isolated because of sickness; the females were not examined in his absence.

was then transferred to a slide, allowed to dry, and subsequently treated by Shorr's method (Gurr, 1953). The resulting permanent preparation was examined at a magnification of $\times 500$, the stage of the cycle diagnosed, and later plotted on dated graph paper (Text-fig. 1).

It was found that the cytological characteristics of the oestrous cycle of the potto are comparable to those of the laboratory rodents, the separate stages of the cycle being readily identifiable from the fixed and stained preparations (Pl. 1, Figs. 1 to 5). The mean length of the cycle for the two individuals over a period of 24 months was 38.8 (S.E.M. $\pm$ 0.94) and 37.0 ($\pm$ 1.59) days, of which 2.2 ($\pm$ 0.38) and 1.4 ($\pm$ 0.20) days respectively were spent in vaginal oestrus (Table 1). No seasonal variation of the cycle was apparent.

The cycle length reported here, using the classical vaginal smear technique, is closely similar to that found by Manley (1965). He based his study on daily observation of the changes occurring in the external genitalia, and reported a periodicity of 39 days. Petter-Rousseaux (1962) reported that the potto only cycles twice a year, with an interval of 50 days between the two oestrous periods. She appears to have examined samples of vaginal fluid only intermittently, however, and may as a consequence have missed additional oestrous smears.

TABLE 1
MEAN LENGTH (IN DAYS) OF EACH STAGE OF THE CYCLE

	<i>Oestrus</i>	<i>Metoestrus</i>	<i>Dioestrus</i>	<i>Pro-oestrus</i>	<i>Total</i>
Female 50 (eighteen complete cycles)	2.2 ($\pm$ 0.38)	5.2 ($\pm$ 0.68)	26.7 ($\pm$ 1.02)	4.7 ($\pm$ 0.48)	38.8 ($\pm$ 0.94)
Female 52 (eighteen complete cycles)	1.4 ($\pm$ 0.20)	4.0 ($\pm$ 0.58)	28.9 ($\pm$ 1.54)	2.7 ($\pm$ 0.53)	37.0 ($\pm$ 1.59)

Standard errors in parentheses.

Rao (1932) reported a menstruation-like process in the uterus of the slender loris (*Loris tardigradus lydekkerianus*). Very little blood was observed at the vulva, however, and so this process was termed 'microscopic menstruation'. Ramaswami & Kumar (1962, 1965) did not confirm this observation. Careful watch was kept during this study for both overt and microscopic signs of menstruation in the potto. No such signs were observed, and it is concluded that menstruation does not normally occur in this species.

A mature male potto was housed with the two females for some 18 of the 24 months. Spermatozoa were found in the vaginal smear every month of the year except June and September. Out of thirty-five separate observations of spermatozoa in the smear, twenty-two occurred at oestrus, seven at metoestrus, one at dioestrus and five at pro-oestrus. Cycles during which copulation took place were not obviously different in length from those in which mating did not occur.

A number of live births in captivity have already been recorded for this species (Jarvis & Morris, 1959, 1960; Crandall, 1964; Grand, Duro & Montagna, 1964a, b). Despite the regular occurrence of copulation, however, neither female in this study has conceived to date.

Cytology of the potto oestrous cycle. $\times 1600$.

FIG. 1. Early oestrous smear: cornified squamous cells, some still with nuclei.

FIG. 2. Metoestrous smear: cornified squamous cells; leucocytes.

FIG. 3. Dioestrous smear: leucocytes; nucleated epithelial cells; large squamous cell.

FIG. 4. Pro-oestrous smear: nucleated epithelial cells; leucocytes.

FIG. 5. Early oestrous smear with spermatozoa; squamous cells with very small nuclei (degenerating): spermatozoa.

(Facing p. 456)

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