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- 12 ha within a forest fragment of 32 ha. Changes in alpha male status were observed three times during a period of six months (February–August 2004). On July 18th we were following the subordinate adult male (“Tamarindo”) and the alpha male (“Die”) was not observed that day. Both males showed injuries and we suspected a recent change in alpha male status, since Die did not rejoin the group. In the morning we noted that one of the adult females (“Juana”) was giving birth. The infant’s tail was first observed and then its hind limbs. Five minutes later (8:15 h), half of the infant’s body was outside, but the mother was unable to completely pull it out. The infant’s head was still inside after 45 minutes of delivery. More than two hours later (11:28 h) the female finally took out the infant, but it was dead. The mother held it for about 10 min. and, then, dropped it at 11:40 h. Our inspection of the infant suggested that it died asphyxiated by the umbilical cord. Surprisingly, there was another infant attached alive to the cord, but about one third the size of the dead one. We placed the second infant on the forest floor closer to the mother. She went down to the ground after hearing the infant screaming, but probably because of its small size and its attachment to the placenta, it was unable to grab the mother’s fur. She took the infant and went to the canopy, where the adult male approached her and took the infant. The male quickly bit the infant’s head and dropped it in the creek, where it died.

TWINS AND INFANTICIDE IN RED HOWLER MONKEYS INHABITING A FRAGMENT IN WESTERN ORINOQUIA

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Twinning is rare in anthropoid primates, but it occurs in a variety of species, including New World atelid monkeys (Link et al., 2006). This reproductive strategy is common in some small primates (e.g., Callitrichinae), but it does not seem to be appropriate for larger species, for which the cost of simultaneously rising two infants is quite high (Chapman and Chapman, 1986; Link et al., 2006). Similarly, infanticide (the killing of an infant) is an uncommon primate behavior. This occurs particularly when a mature male wins alpha status and kills unrelated infants. The loss of the infant allows the mother to become receptive sooner and to mate with the new, infanticidal male, likely increasing his reproductive success (i.e. sexual selection hypothesis; van Shaik 2000). Infanticide has been documented in several populations of howler monkeys (Crockett, 2003). In this note we report an unusual case of twinning and infanticide in red howler monkeys (*Alouatta seniculus*).

The observation took place during a socio-ecological study in Santa Rosa Farm, located in San Martín (Meta, Colombia) (3°36'52.10"N, 73°38'34.20"W, 373 m a.s.l.). The study group, composed of two adult males, two adult females, one juvenile male, and one infant male, ranged over

We suggest that twinning may incur mechanical complications during delivery. Although the resident males fought the day before the infanticide (as expected by the sexual selection hypothesis), we do not know which male had sired the infants. Therefore, it is not possible to confirm the attack completely fits the sexual selection hypothesis.

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MORPHOMETRIC DATA FROM A WILD FEMALE TITI MONKEY, *CALLICEBUS CUPREUS*

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Body size and the size of organs and other body structures are intimately related to the life history and ecology of a species (Temerin et al. 1984). Comparative analyses of data from different taxa can reveal allometric relationships and the adaptive value of different body or organ size (Martin 1990, Terborgh 1983). E.g., Terborgh (1992) showed the

Table 1. Morphometric measurements from the *Callicebus cupreus* female and comparative data from the literature

	This report	Hill 1960	Hershkovitz 1990	Bicca-Marques et al. 2002	Peres 1993	Ferrari & Lopes 1995
External measurements						
Body mass [g]	720		1106 (1000-1175)*	750, 900	860, 970*	880 [#] , 1020 [§]
Head-body length [mm]	285	325, 310	337 (270-410)	280, 310	302, 358 [‡]	
Tail length [mm]	475	440, 420	439 (405-470)	340, 440	412, 414*	
Hind foot length [mm]	89	100, 95	92 (85-100)		89, 91*	
Skull length [mm]	67.7	65 [†]	63.9 (60.0-66.8)			
Zygomatic breadth [mm]	42.2	41.25	39.0 (36.0-42.0)			
Orbital breadth [mm]	37.2					
Braincase width [mm]	39.8					
Postorbital restriction [mm]	31.4					
Across molars [mm]	19.9					
C ¹ - C ¹ [mm]	12.0		13.7 (12.9-15.0)			
C1 - C1 [mm]	8.7					
P ² - M ³ [mm]	15.1	15.4				
M ¹ (right) breadth [mm]	4.4					
M ² (right) breadth [mm]	4.1					
M ³ (right) breadth [mm]	3.3					
Mandibular height [mm]	35.4					
Orbita height [mm]	1.7					
Orbita breadth [mm]	1.4					
Internal organs						
Liver mass [g]	25.5					
Kidney mass [g], right	3.5					
left	4.8					
Adrenal length [mm], right	5					
left	7					
Spleen mass [g]	3.25					
Small intestine length [mm]	950					944 [#] , 1056 [§]
Caecum length [mm]	100					
Large intestine length [mm]	435					324 [#] , 521 [§]
Pluck (lung, heart, trachea, tongue) [g]	9.75					

* Data for male *C. cupreus* only; [#] *Callicebus caligatus*; [§] *Callicebus moloch*; [†] Hill (1960) provides a mean of two males and three females; [‡] Peres (1993) gives 716 and 770 mm, but this is likely to be head-body-tail length, values listed here are therefore the value given by Peres minus tail length