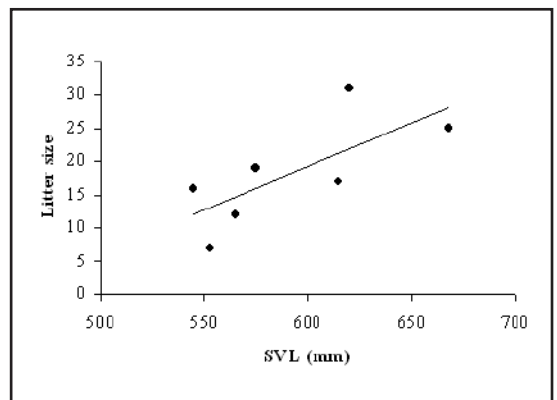


HELICOPS LEOPARDINUS (Water snake):

REPRODUCTION. *Helicops leopardinus* is an aquatic and viviparous snake (Lira-da-Silva *et al.* 1994), distributed from the Guianas to Argentina (Peters & Orejas-Miranda, 1986). It is widespread in Brazil, and one of the most common species in the Pantanal region (Strüssmann & Sazima, 1993). Data on reproduction of this species are scarce. Lira-da-Silva *et al.* (1994) and Freitas (1999) recorded litters ($n = 4$) of seven to 15 newborns for *H. leopardinus* from Bahia, northeast Brazil. Here we present a new record of a litter, as well as provided additional information on the fecundity of the species.

One female *H. leopardinus* collected in the city of Lageado (09°45'S, 48°12'W), Tocantins, northern Brazil, was brought to Instituto Butantan on 21st January 2001. The female (IB 66413; 620 mm in snout-vent length (SVL), 145 mm in tail length (TL), and a mass of 145 g after parturition) gave birth to 31 newborns (21 alive and 10 dead but fully developed) on 8th February 2001. The live newborns averaged 118 mm in SVL (range = 100–135 mm), 39 mm in TL (range = 35–45 mm), and 1.8 g (range = 1.4–2.4 g). The relative clutch mass (RCM; total clutch mass/body mass of mother after parturition; see Shine, 1980) was 0.39. The RCM calculated following Seigel & Fitch (1984) (total clutch mass/body mass of mother + clutch mass) was 0.28.

Figure 1. Relationship between the litter size (including oviductal embryos) and the female's body size in *Helicops leopardinus*. $r_{\text{Spearman}} = 0.82$, $n = 7$, $p = 0.02$.



IB	Region	Co-ordinates	Female SVL (mm)	Litter size
22667	–	–	553	07
20024	Fortaleza, Ceará	03°43'S, 38°32'W	668	25
2646*	Bahia	–	575	19
24534*	Batovi, Mato Grosso	15°51'S, 53°30'W	615	17
44051*	Campo Grande, Mato Grosso do Sul	20°26'S, 54°38'W	545	16
45883*	Campo Grande, Mato Grosso do Sul	20°26'S, 54°38'W	565	12
66413	Lageado, Tocantins	09°45'S, 48°12'W	620	31

Table 1. Summary of data on litter and female's body size for *Helicops leopardinus*. * = oviductal embryos. All preserved individuals were from the Herpetological Collection of the Instituto Butantan (IB).

Additional litters of six preserved specimens presented seven to 25 newborns or oviductal embryos (Table 1). The average litter size in *H. leopardinus* including oviductal embryos is 18 (range = 7–31), and is positively correlated with the female body size ($r_{\text{Spearman}} = 0.82$, $n = 7$, $p = 0.02$; Figure 1). This correlation is a common trend encountered in various snake species (Shine, 1994). Moreover, *H. leopardinus* produce litters of similar size to other congeneric species, particularly *H. infrataeniatus* (Aguiar & Di-Bernardo, 2005) and *H. modestus* (RRS, unpubl. data). The RCM value reported for *Helicops leopardinus* is high but similar to the maximal values reported for other unrelated viviparous and aquatic snakes (e.g. some natricines of the genus *Nerodia* and *Regina*; see Seigel & Fitch, 1984).

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