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CLUTCH SIZE AND HATCHING SUCCESS IN BROAD-SNOUTED CAIMAN, *Caiman latirostris* (CROCODILIA: ALLIGATORINAE), IN SANTA FE PROVINCE, ARGENTINA

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ABSTRACT

Larriera, A. 1991. Clutch size and hatching success in broad-snouted caiman, *Caiman latirostris* (Crocodilia: Alligatorinae), in Santa Fe Province, Argentina. *Rev. Asoc. Cienc. Nat. Litoral 22*(1):19-23

Clutch size and hatching success in 12 Broad-snouted caiman nests in Santa Fe Province, Argentina, between 1984 and 1990 in captivity and in the wild is shown. Clutch size averaged 37.1 eggs/nest and hatching success of all the eggs gathered was of 43 %.

RESUMEN

Larriera, A. 1991. Tamaño de postura y nacimientos exitosos en yacaré overos, *Caiman latirostris* (Crocodilia: Alligatorinae), en la provincia de Santa Fe, Argentina. *Rev. Asoc. Cienc. Nat. Litoral 22*(1):19-23

Se presenta información sobre la cantidad de huevos y nacimientos producidos en 12 nidos de yacaré overo en la provincia de Santa Fe, en condiciones de cautiverio y en el medio silvestre, entre los años 1984 y 1990. El tamaño medio de postura registrado fue de 37,1 huevos por nido y el porcentaje de nacimientos producidos, considerando el total de huevos utilizados en el estudio, fue del 43 %.

INTRODUCTION

Although there are no population studies, the Broad-snouted caiman (*Caiman latirostris*) is the mostwidespread variety of crocodile in northern Argentina.

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It certainly is the most numerous variety in Santa Fe Province since the other species (*C. yacaré - C. crocodilus yacare*) is rarely found (Waller, 1987).

The Broad-snouted caiman has been and still is illegaly hunted because of its valuable skin and to a lesser extent, for food. The legal protection of caimans is not effective (Gruss & Waller, 1988), but some attempts habe been made to breed them in captivity or to manage wild populations through ranching (Larriera, 1988; Yanosky, 1990).

Available data on *C. latirostris* clutch size (Achaval & González, 1983; Braun, 1973; Melo Carvalho, 1969; Saporiti, 1955; Yanosky, *op. cit.*) is scarce and almost always refers to a single nest with very little information about hatching success.

In this paper information is given about the clutch size and hatching success in 12 Broad-snouted caiman nests in Santa Fe Province (Argentina), nine of them from captive breeding and three from natural habitat.

MATERIALS AND METHODS

Data on clutch size and hatching success were gathered from 12 Broad-snouted caiman nests between 1984 to 1990. The nests come from two different sources: eggs collected from the wild in the Salado River flooded lands of the "Estancia El Lucero" in San Cristóbal (29º 55' S; 60º 50' W); and eggs laid in captivity at "Criadero Experimental de Yacarés" of the Ministry of Agriculture of the Province.

The Salado River flooded lands are characterized by heavily vegetated swamps and marshy lands, and have numerous *C. latirostris* population (Mazuchini, *pers. com.*).

The "Criadero Experimental de Yacarés", situated in Santa Fe City, consists of two different ponds with a total of 25 adult animals which were captured from wild habitat (different places in the province) between 1978 and 1984. Two thirds of the place are covered by water and the land surface has abundant vegetation.

The '84 and '85 nests came from the "Criadero Experimental" and were opened manually a couple of months after laying. For artificial incubation, 14 eggs were selected from the first '86 nest. This attempt failed due to dehydration. The rest of the eggs from the first '86 nest and those from the second were collected from the nest at the moment of hatching. The '87 (two) and '88 (one) nests were taken from wild habitat and hatching occurred between 6 and 15 days after their arrival at the "Criadero Experimental" and the eggs were collected in a period from 6 to 10 days before hatching.

In all cases, the egg harvest was carried out very carefully and the eggs were transported to the birth-room in plastic containers with nest material. In the birth-room, the eggs were kept with nest material at 30 to 32º C and 97 to 99 % of humidity, until hatching.

RESULTS AND DISCUSSION

In Table 1 the number of eggs from each nest, viable births and nest origin are shown. The clutch average (37.1) is practically the same as recorded by other authors (Achaval & González, Braun, Melho Carvalho, Saporiti, Yanosky, *op. cit.*).

Table I

Clutch size and hatching success of broad-snouted caiman's nests. C: Captivity; Wh: wild harvest.

Nest nº	Year	Clutch size	Hatchlings per nest	Source of the nests
1	1984	36	-	C
2	1985	72	-	C
3	1986	31	12	C
4	1986	28	12	C
5	1987	41	26	Wh
6	1987	35	25	Wh
7	1988	27	19	Wh
8	1989	44	10	C
9	1989	37	30	C
10	1990	31	6	C
11	1990	23	15	C
12	1990	41	38	C
$\bar{x}$(SD)		37.1(8)	16.08(8)	

The large number of eggs found in nest nº 2 (72) suggests that two or more females may have laid in the same nest, a possibility that was mentioned by Yanosky (*op. cit* .).

The low average hatched per nest (16), deserves some consideration as management mistakes caused this number to be low. In nests number 1 and 2 the opening was done manually some time after the hatching date (Larriera, Larriera y Aguinaga, Larriera *et al.*, 1990). The female in captivity does not facilitate hatching by breaking the nest as she does in the wild (personal observation). From nest nº 3, 14 out of 31 eggs were selected for artificial incubation, but the humidity supplied was lower than the needed one (Joanen & Mc Nease, 1983), and this caused dehydration. The hatching success registered in this work is of 43 % but, if neither nests 1 and 2 nor the 14 eggs from nest nº 3 are taken into account, hatching success rises to a 60 %, a figure the writer considers more realistic.

The relatively few nests studied, and the variation in number of eggs among nests, do not imply differences between clutch size of wild nests and those in captivity.

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