

Winter survival of *Caiman latirostris* hatchlings: preliminary results

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Abstract: To know winter survival and movement of *Caiman latirostris* hatchlings (CI<25cm SVL) we released 18 animals (15.5±1.1cm SVL) with radio transmitters in Santa fe province, Argentina. We recorded the location of each transmitter, assigning each encounter to one of the following categories: Alive, Dead, Unseen, or Transmitter without the animal (TW). In a 106-day interval, we made six field trips, finding 55.5% of the individuals dead and 44.5% TW. We used the Kaplan-Meier test to evaluate survival under four possible scenarios, depending on whether each TW was taken as if the individual had been Alive or Dead: E1, all alive; E2: seven alive (all TW except the individual whose transmitter we found outside the lagoon); E3: two alive (transmitters without marked scratches on their carcass); and E4: all dead. Although we could not find any individual alive, the estimated survival probability for E1 was 38±13%, for E2 35±12%, for E3 11±7%, and for E4 0%. Caiman movements were heterogeneous: while five individuals remained close (between 0-30 m) to the release site, the rest firstly moved between 80-247 m and afterwards their displacements were circumscribed within a small area. Although we can only ascertain for those killed by thermal stress (38%), it is most plausible that, including predation and taking E3 as reference, survival is around 11%. However, considering that we have only evaluated a portion of the first year, and the animals were kept in captivity for 2.5 months, the first-year mortality may be higher. Our findings regarding the mobility of CI show the necessity to thoroughly evaluate in advance the suitability of sites where hatchlings are planned to be released, to maximize their survival in the long term, as they do not move too much.

Keywords: Broad snouted caiman; Movement; Offsprings; Radio telemetry

Type of exhibition: Oral

Thematic Area: Research and knowledge (P2: Natural History)