

Retrospective analysis of the advance of the agricultural frontier and its effects on the reproduction of *Caiman latirostris*

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Abstract: In 1990, a monitoring and conservation program of broad-snout caiman (*Caiman latirostris*) was implemented in Argentina known as Proyecto Yacaré (PY) based on the ranching technique that consists of harvesting eggs in nature, their artificial incubation and breeding under controlled conditions. The successful work joint to the local inhabitants has generated that the populations of this are abundant and have recovered their historical geographical distributions. In the work areas of the PY, it is no stranger to the agricultural frontier expansion accompanied by the increase in the use of pesticides, which has generated that the distribution of this species is immersed in these environments. The degradation of the habitat added to the exposure to these substances could reflect certain reproductive alterations in *C. latirostris*. Due to the extensive information collected throughout all these years, the objective in the present work is to assess certain reproductive parameters of *C. latirostris* according to the harvested nests conforming to the proximity to agricultural areas. The distance from the nest to the harvested environments has been considered as a criteria for classification in disturbed or undisturbed. Where the variables number of infertile, percentage of non-viable and days of incubation through the different seasons were considered. In both types of environments (disturbed and undisturbed) there is an increase in the average percentage of non-viable for the last years of collection. In turn, there is little difference when comparing both types of environment. In the other hand the average number of infertiles, there is also an increase in this parameter for the last years of collection in both types of environments, however when comparing them to each other, there are no notable differences. Finally, there is a significant delay in incubation time in disturbed environments, it takes longer to hatch than those eggs collected in undisturbed environments.

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