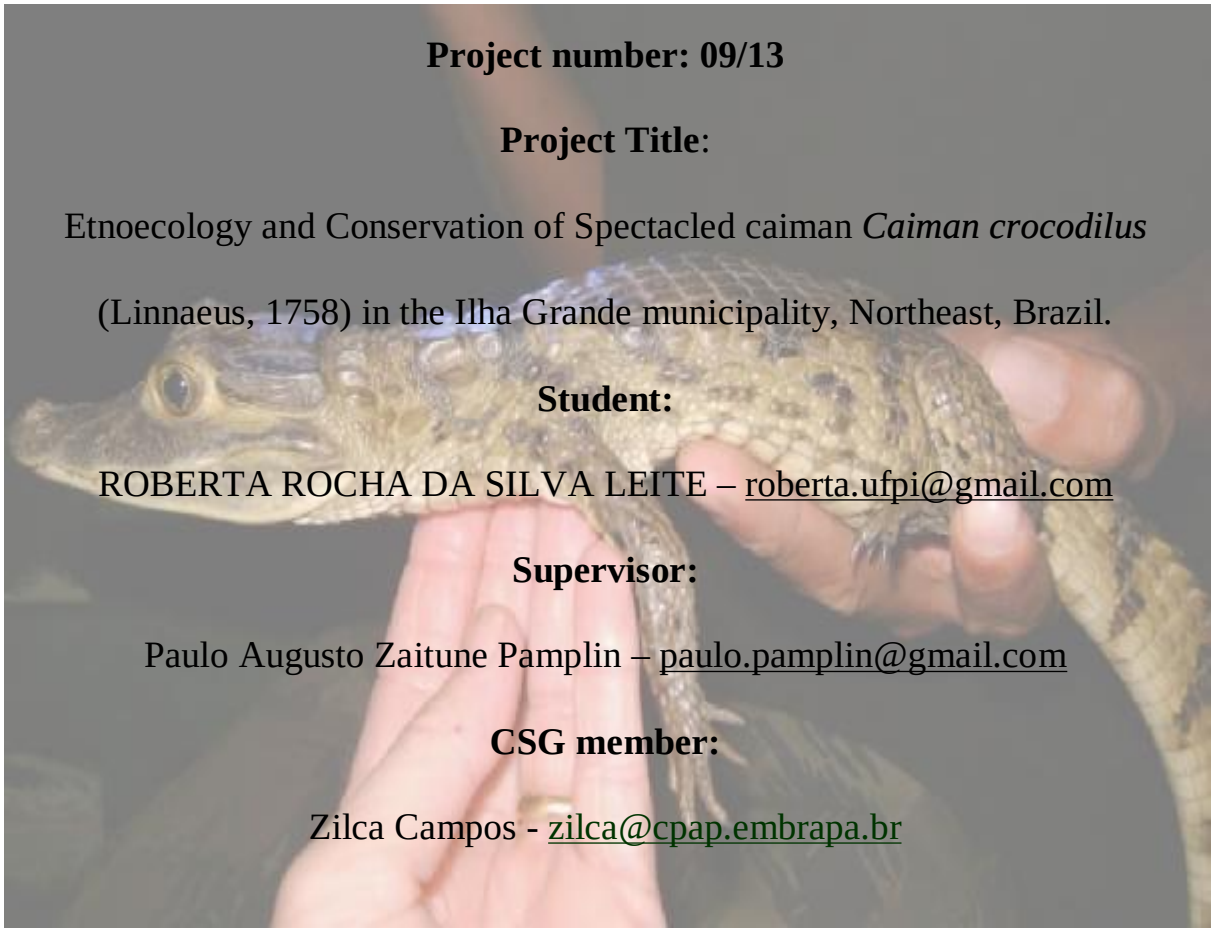
IUCN-SSC Crocodile Specialist Group
Student Research Assistance Scheme Application Form

SUMMARY REPORT



Project number: 09/13

Project Title:

Etnoecology and Conservation of Spectacled caiman *Caiman crocodilus*

(Linnaeus, 1758) in the Ilha Grande municipality, Northeast, Brazil.

Student:

ROBERTA ROCHA DA SILVA LEITE – roberta.ufpi@gmail.com

Supervisor:

Paulo Augusto Zaitune Pamplin – paulo.pamplin@gmail.com

CSG member:

Zilca Campos - zilca@cpap.embrapa.br

PROPOSED OBJECTIVES IN THE PROJECT AND RESULTS OBTAINED

The final results of this report makes part of the student's Dissertation and later will be published as scientific papers. Below, we list some feedback on the proposed objectives.

Objective 1: Identify the water bodies in the municipality of Ilha Grande where this species occurs, establishing the nidification areas.

Result obtained: We have established four studies sites of ***C. crocodilus*** in the Municipality: the site 1 is located between coordinates UTM 184201.09E 9687471.04S and 183126.42E 9683299.82S zone 24M, has 9.70 km long; the site 2 is located between coordinates 183298.43E 9687243.80S and 184751.96E 9677722.43S, is composed by an only section of River Parnaiba, corresponding to 14.50 km; site 3 is located between coordinates 184104.13E 9689966.41S and 186430.52E 9694352.62S, with 15.11km long, the site 4 embrace an area of four ponds, located northeast of the city, between the coordinates (straight) 186640.48E 9686473.60S and 188054.77 E 9693760.71S, traversed the perimeter is the sum of margins (shoreline) of the ponds visited, with approximately 12.10Km. During the sampling, about 165 individuals were recorded, 20 of them belonged to the same brood, so mainly 145 animals were considered for the calculations indeed. This way, 61 individuals were found in Parnaíba River (site 2), 53 in streams, 33 at site 1 and 20 at site 3, and 31 in lakes (site 4) (Figure 1).



Figure 1: Four study sites of ***C. crocodilus*** in the Ilha Grande municipality, State of Piauí, Brazil.

During the study, we investigated 239.3 km of shore, 191.1 km in rivers and streams, and 48.2 km in ponds. The total abundance regardless of habitat type was 0.60 caimans.km^{-1}, with a variation according to habitat's type (river, stream or pond). Thus, the abundance was valued according to the type of habitat, resulting in 0.84 caimans.km^{-1} (0.27 to 2.06 caimans.km^{-1}) investigated along the shore of the Rio Parnaiba, 0.64 caimans.km^{-1} (0.08 to 0.99 caimans.km^{-1}) in ponds and 0.44 caimans.km^{-1} in streams, and 0.56 caimans.km^{-1} (0.20 to 1.03 caimans.km^{-1}) at Site 1 and 0.33 caimans.km^{-1} (0.06 to 0.59 caimans.km^{-1}) at site 3 (Figure 2):

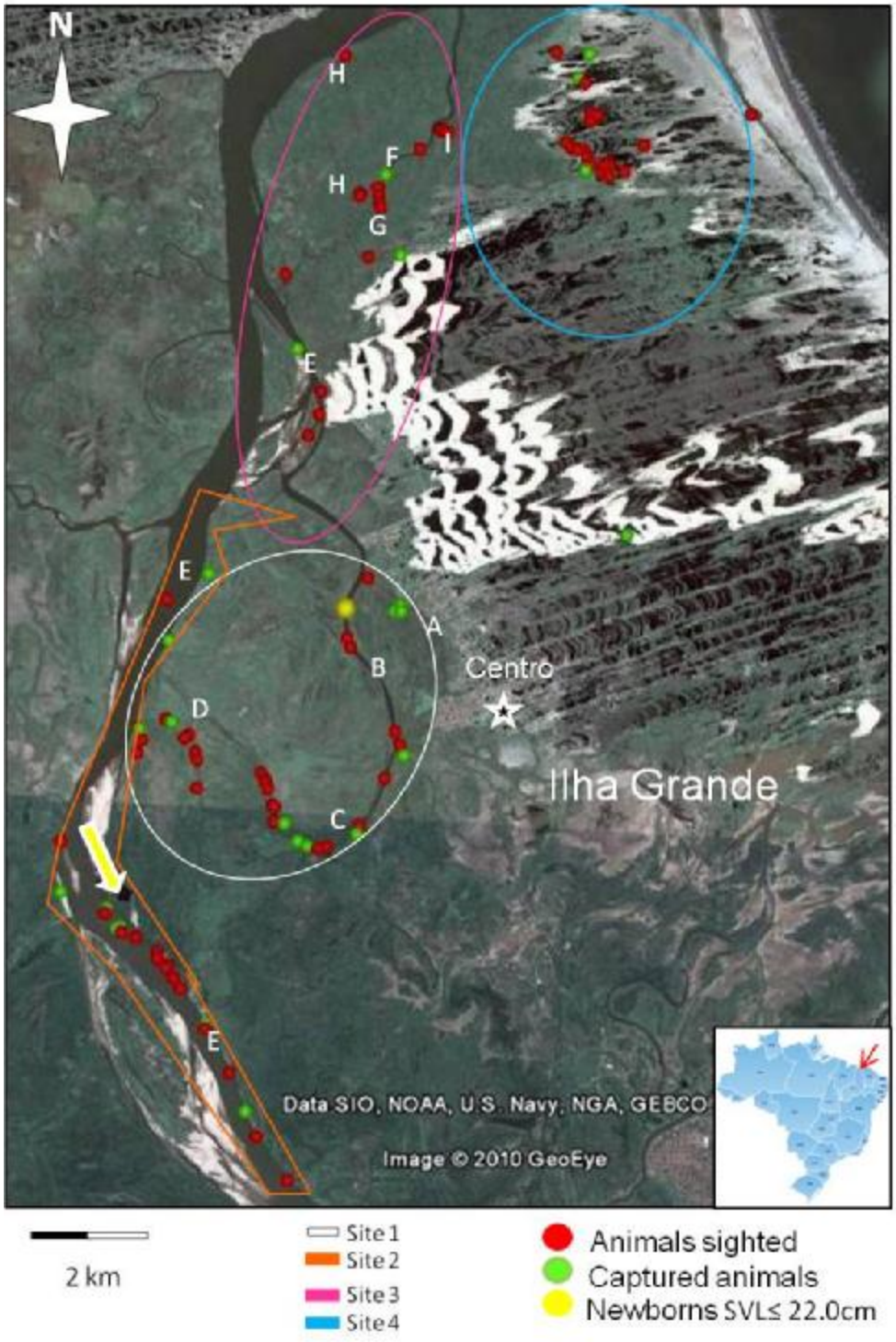


Figure 2: Distribution's Map of *C. crocodilus* of sites.

During the implementation of the project we did not find nests, however, were identified supposed areas of nesting by local inhabitants.

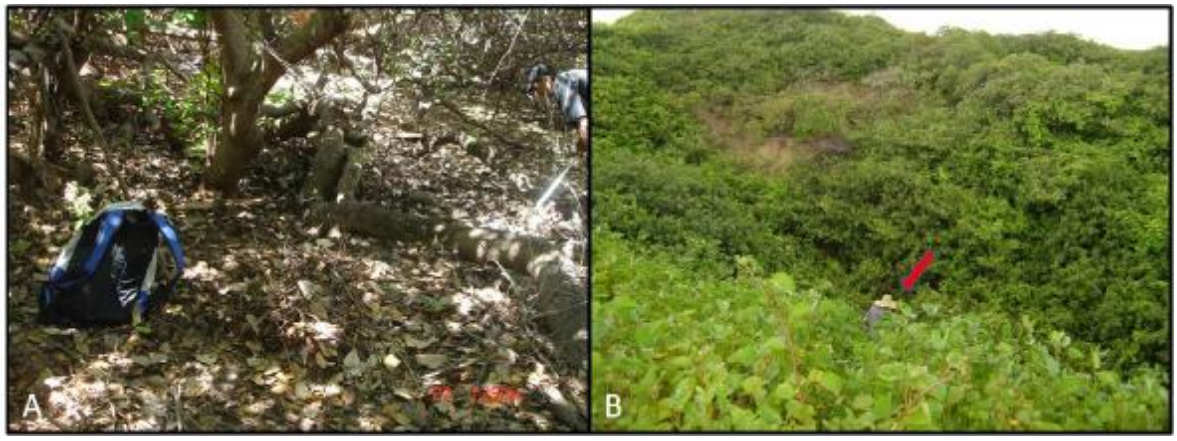


Figure 3: Examples of possible areas used for nesting (site 4). Figure A (187846.43E 9693537.02S)-area with cashew (*Anacardium occidentale* L) plant material (leaves and steams) Figure B (186647.97E 9691138.74S)-area with sand dunes, grass, shrubs and cashew. The arrow shows a local resident looking for nests.

Objective 2: Biometry and captured specimens.

Result obtained 2: After visualization of an animal, the canoe was driven to it, trying to catch it, and the final approach was always made by paddle, in the case of sites 1, 2 and 3. In the case of site 4, which was done by foot, the team went bordering the lakes and then entering to try to capture the animal. All the animals that were sighted we tried to catch, but we have been successful with only 19.0% of them (Figure 4).

We captured 33 *C. crocodilus*, 19 males, 7 females and 7 undetermined. The animal's size ranged from SVL = 20.0 cm (newborn CT=39,5cm) to 79.0 cm (adult male, CT=145,0cm).

These information is still undergoing analysis

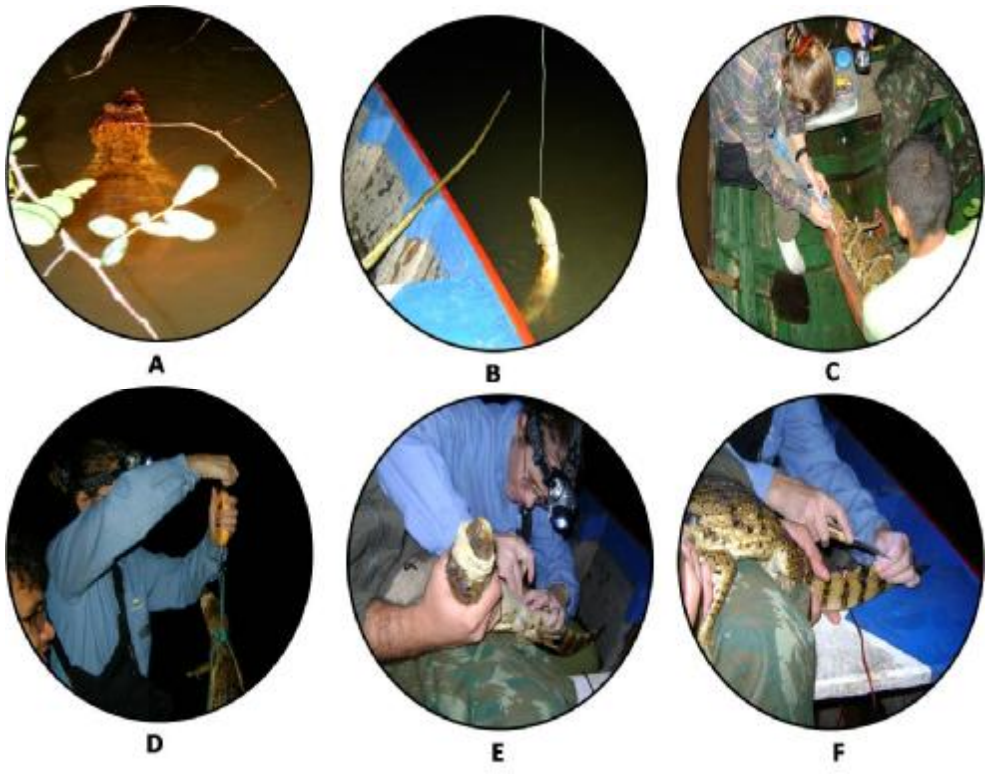


Figure 4: Procedures for field work: A - Nocturnal of a specimen of *Caiman crocodilus*; B - Capture of the specimen with the aid of tie wire rope, C - Morphometry; D - Weighting the animal with a digital scale; E - Sexing; F - marking method of cutting ridge flow.

Objective 3: Verify the etnobiological perception of students of public school and the members of local community of Ilha Grande about spectacled caiman, concerning its conservation, bioecology and sustentable use.

Result obtained 3: We sent the manuscript entitled: **"**Use of mental maps in perceptual representation basic education of students of the city Ilha Grande, State of Piauí, Brazil: the case of spectacled caiman (*Caiman crocodilus*)" to be published in the Journal ***Pesquisa em Educação Ambiental*** (ISSN 1980-1165). ***Abstract***: The study of perception can contribute significantly to support proposals for conservation of animal's species. The objective of this study was to verify from the mental maps, what kind of perceptive relationship the student belonging to 6 and 9 years of elementary school, in the city of Ilha Grande PI, has about the jacaretinga, seeking to help future plans of environmental education. The methodology used to represent the perception was the use of mental maps. The drawings showed the presence of representative's elements of the landscape (landmarks) and the existence of ambiguity in relation to student's feelings about the figure of jacaretinga, revealing positive feelings (biophilia) and negative (biophobia). The manuscript is under evaluation for publication.
Below we show a map of the city with the location of schools that were studied and their photographs.



Figure 5: Map of the Ilha Grande city with the location of schools studied and their photographs.

Another work is being written about ethnoecological knowledge of the local's community residents about the ecological aspects of *C. crocodilus.*

This research was conducted with members of the community of Ilha Grande, belonging to villages (neighbourhoods), having no preference between categories of work / occupation, nor between age's group. The goal was the search for "native expert" on issues related to jacaretinga (*C. crocodilus*), seeking to reconcile issues such as: man and environment which they live; jacaretinga ecology of the presence or absence of hunting activity in the region; food habit of the respondents regarding the alligator; zootherapy; popular beliefs, notions of environmental disturbances; sustainability; occurrence or absence of injury to the species studied, among others.We interviewed 21 people, among them, 13 were selected, all male, aged between 28 and 71 years. The fact that all the interviewees belong to the male is directly connected to an indication of each participating member, since it was free the indication by both sexes. The method of this sampling was Snowball method. This method consists in asking to a set of actors (local experts) to gather their information. Each of these actors indicates a number of other actors from the original set (or not) and then appoint another that

could be known or not. The process is repeated until the goal is reached. There are no maximum or minimum limits of informants. This method is characterized as a fast method of collection if the search is started from the most popular elements of the network. Using this method enabled the selection of informants with more knowledge or representation in the community and the choice of "expert native".
Preliminary results show that the participants exhibited a significant knowledge about the ecology of *C. crocodilus*, revealing in great detail some behaviours that can only be observed *in situ* as habitats occupied by the species in the region, time of activity, nesting behaviour, diet, vocalization, lunar influence and salinity, among others. Although knowledge of the informants have been equally considered to be consistent or not, in general, what could be seen is that the answers to the questionnaire had the same direction, possibly indicating the proximity of the level of knowledge of informants.

Objective 4: Verify the existence of hunting activities of spectacled caiman.

Result obtained 4: Preliminary results of the analysis of the interviews show that there is presence of hunting activity among residents, but most say they do not hunt anymore.

Objective 5: Provide elements to subsidize for Environmental Education projects.

Result obtained 5: We believe that the end of this paper we can propose conservation measures for C. crocodilus, based on the traditional knowledge (ethnoecology) and field research. We encourage environmental education in schools in order to work the perception of students in conservation basophilic relations with alligators and other animals in the region.

EQUIPMENT PURCHASED WITH FUNDING OBTAINED

We received $1,000USD exchange for Real R$1850,00 (according to the value of the dollar at the time). With this amount, we have bought:

Equipment	Value in Real (R$)
Tweezers to capture reptiles	280,00
One weighing machine until 1kg	200,00
One weighing machine until 50kg	500,00
One headlamp	25,00
One rechargeable batteries	50,00
Tags	100,00
Pliers for application tags	125,00
GPS Garmin Geko	201,00
Sony camera 12.1 MP	280,00
Freight expenses	95,00
TOTAL spent	**1857,00**

SOME PHOTOS OF TEAM WORKING



Figure 6: A, B, I – weighing; C – sexing; D, F – return to nature; E – morphometry; G, H – contention.

No more for the moment, appreciate the collaboration of IUCN-CSG.

Parnaíba, Stat of Piauí, Brazil, July 23th 2010

Roberta Rocha da Silva Leite

Paulo Augusto Zaitune Pamplin

Zilca Campos