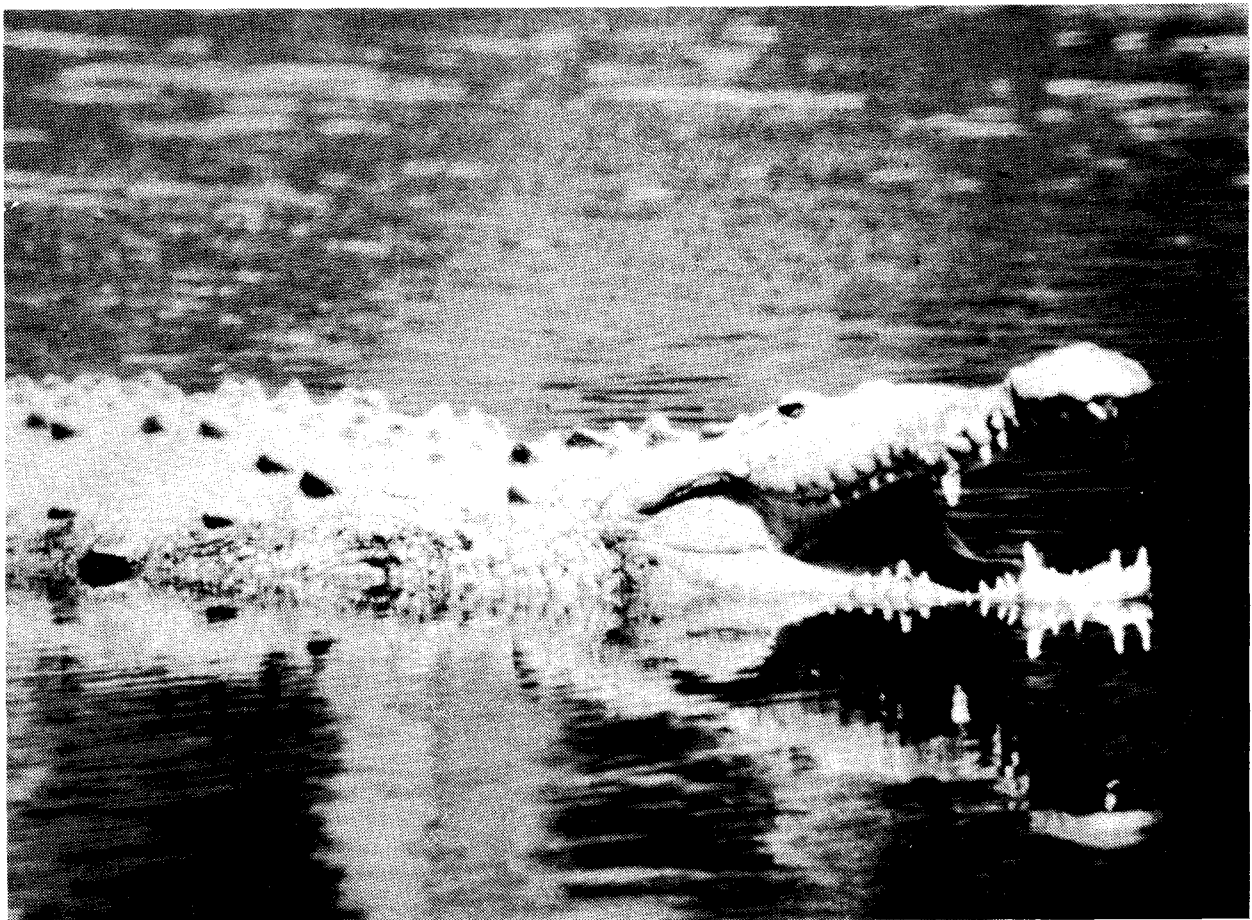


# CROCODILE SPECIALIST GROUP

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## NEWSLETTER

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International Union for Conservation of Nature and Natural Resources ■ Species Survival Commission

indigenous fauna from the possible negative biological impacts of non-native crocodiles that might escape to the wild. -- Juan Villalba Macias, *Vice Chairman, CSG, Latin America, Carlos Roxlo 1496/301, Montevideo, Uruguay*, and Lucy Aquino Shuster, *Museo Nacional de Historia Natural de Paraguay, Ministeria de Agricultura y Ganaderia, Sucursal 19, Ciudad Universitaria, San Lorenzo, Paraguay*.

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CAIMAN PROJECT ON HOLD. The second phase of the project on Yacare caiman is on hold until some questions concerning recent events are answered. Scientists from Paraguay and the U.S. were preparing to implement the second phase of the project when the Paraguayan Ministry of Agriculture and Livestock (MAG) sold some skins confiscated in 1989, to a local trader. Although Paraguayan decree allows the selling of confiscated skins, MAG had agreed with CITES and TRAFFIC not to continue this practice. The trader assured MAG that the skins were for domestic use only. The quantity was originally reported to be 35,236 [author did not specify hides, flanks or pieces. -- *Eds.*], however, no "official" inventory was taken and no documentation exists.

Early this year the trader repeatedly petitioned CITES-Paraguay for permits to exports these skins. No permits were ever signed and the owner of the skins has refused to give the Paraguayan CITES scientific representative permission to view the skins, raising the question, "do these skins exist?"

Juan Villalba-Macias visited Asunción between 3 - 7 August 1990, as a representative of both the CITES Secretariat and TRAFFIC. During a press conference Sr. Villalba directed questions concerning these skins to the Paraguayan Government that to date have not been answered to the satisfaction of CITES. Therefore, CITES has sanctioned Paraguay and withdrawn support for any programs in Paraguay, including the caiman project, until this situation is clarified.

The conservation and scientific organizations in Paraguay would like to thank both Sr. Villalba and Dr. Obdulio Menghi of CITES for their strong participation and support on this issue during the last few months. Because of Sr. Villalba's visit, this issue and others concerning Paraguayan wildlife are finally receiving the attention they deserve. We would like to invite

Juan to return to Asunción as soon and as often as possible. -- Lucy Aquino-Shuster, *Museo Nacional de Historia Natural de Paraguay, Ministeria de Agricultura y Ganaderia, Sucursal 19, Ciudad Universitaria, San Lorenzo, Paraguay*.

## Suriname:

CROCODILIANS AND POLLUTION. Due to guerrilla activities most parts of Suriname are unsafe nowadays. The only river that is relatively safe is the Para river. Here I study the habitat selection of *Caiman crocodilus* and *Paleosuchus palpebrosus*. A most interesting development is the discovery of polluted swamps and lakes in the area. Pollution is caused by the bauxite industry. We have investigated a swamp polluted by caustic soda. The pH of the water is around 10 (highly alkaline) which has caused the death of most of the vegetation so that the swamp looks more like a lake. In contrast to the water in the Para river (pH 4), primary production and oxygen content is high in the swamp. Fish remain abundant and both species of crocodilian occur in numbers comparable to the river. One difference is that we didn't see juveniles in the swamp while they are abundant on the floating meadows of the river.

In the near future we hope to visit some extremely acid lakes with pH of 2 and a lake with increased salinity. This will give us the opportunity to study the tolerance of both species of caimans to several environmental factors in unintended large scale experiments. -- Paul E. Ouboter, *Department of Zoology, Anton de Kom University of Suriname. P.O.B. 9212, Paramaribo, Suriname*.

## Venezuela:

AN UPDATE ON THE RECOVERY PROGRAM FOR THE ORINOCO CROCODILE. The goals of the Orinoco Crocodile Recovery Program are:

- a) An evaluation of the status of the wild populations.
- b) The construction of captive rearing facilities.
- c) The capture of juveniles from wild populations.
- d) The creation of refuges for the Orinoco Crocodile.
- e) The reintroduction of the Orinoco Crocodile into the refuges.
- f) The monitoring of the released crocodiles.

The search for wild populations of the Orinoco crocodile was begun in the 1970's. The first results were published by Godshalk and Sosa (1978), with additional information being provided by subsequent surveys of Ayarzagüena (1987), Franz et al. (1985), Ramo and Busto (1986) and Thorbjarnarson (1988). These data indicate that there still exists at least two important populations in the Capanaparo and Cojedes Rivers, each with more than 200 non-hatchling crocodiles, as well as a series of much smaller populations. Some of these populations have still not been censused and others still are suspected to exist in the Venezuelan Llanos.

The Capanaparo and Cojedes populations are very different, with the former being scattered over more than 200 km of river, and the latter being concentrated in about 10 km. The Capanaparo River is relatively untouched, whereas the Cojedes River is contaminated by chemicals and other waste by the runoff from large agricultural development projects upstream. Breeding occurs in both populations. However, the Capanaparo populations suffer from egg and juvenile collection by the local people and in the Cojedes population the majority of the juveniles disperse to adjacent sub-optimal areas. Both populations are in a slow state of decline.

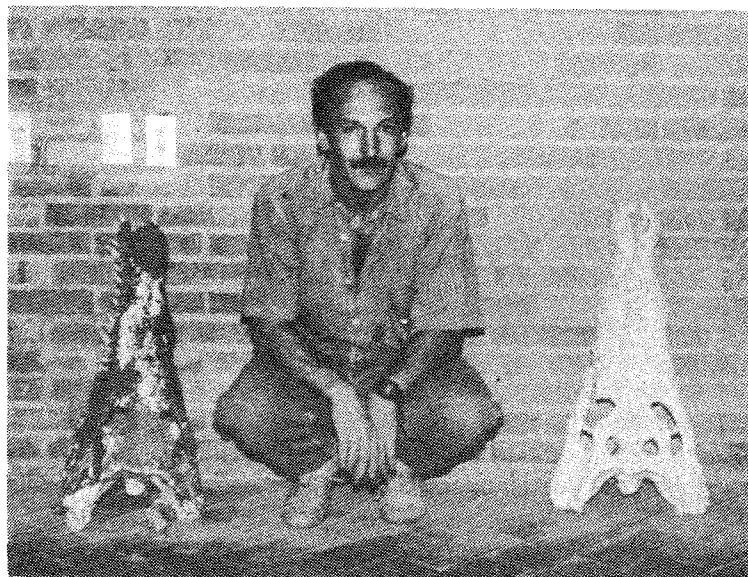
Captive rearing facilities for the Orinoco Crocodiles were begun during the 1970's on the "El Frio" Biological Station and the Masaguaral ranch, and subsequently at the Llanos University (UNELLEZ). The aim of each of these was to maintain a small breeding stock of adult crocodiles with a view to producing young for the recovery of the species. However, to date the results have been disheartening. Some of the problems involved have been discussed by Gorzula (1987).

On the basis of the recent censuses it was considered feasible to stock captive rearing facilities annually with juveniles collected from the wild populations, and thus give these crocodiles a "head start" when released. In 1987, at a meeting of the Venezuelan Crocodile Specialist Group, it was decided that the Cojedes population

would be appropriate for this project, but that the Capanaparo population should be excluded and subject of a separate program aimed at eliminating egg and hatchling collection by local inhabitants.

A concept was developed whereby batches of juvenile Orinoco crocodiles would be collected in the Cojedes River, raised in captive rearing facilities to sizes of 1.2 m or more, and released into protected areas decreed by the Ministry of the Environment (MARNR) (Ayarzagüena, 1988a). A report (Ayarzagüena 1988b) was presented to MARNR on the Caño Guaritico as a first step in the creation of refuges. As a result more than 40 km. of the Caño Guaritico was designated as a wildlife refuge by the President of Venezuela (Decree 2,702, 30 March 1989).

In 1987, 99 eggs and 27 hatchling Orinoco crocodiles were collected from the Cojedes population and 28 juveniles were collected in 1989. No eggs or hatchlings were collected in 1988. These crocodiles are being reared at the "El Frio" Biological Station and at UNELLEZ, and will be released in 1991. This year an additional 76 juvenile crocodiles have been collected for release in 1992. Twenty four juveniles were released into Caño Guaritico Wildlife Refuge during 1989 and 1990. The Fundacion La Salle and the Spanish Agency for International Cooperation (AECI) invited government agencies (MARNR, PROFAUNA, the Governor of Apure State and the National Guard) and NGOs (UNELLEZ, FUDENA, "El



Jose Ayarzagüena with the skulls of two Orinoco crocodiles that were killed by local people during the 1990 dry season. S. Gorzula photo.

Frio" Biological Station and Masaguaral ranch) to a ceremony releasing the crocodiles in April 1990. The recovery program for the Orinoco Crocodile plans to release some 300 individuals into the Caño Guaritico over the next three years.

Due to canalization work over the last three years the Cojedes population is now divided into three sections. The Sacare/Eneal section contains about 20 non-hatchlings, the Caño de Agua section between 200 to 400 non-hatchlings and the Caño Amarillo section about 100 non-hatchlings. Juvenile collections have been made in the Caño de Agua section that produces at least 30 nests annually and results in a minimum of 300 hatchlings. This year, however, nesting and hatching success were very reduced. A marked dry season, combined with the management of the Majaguas reservoir, dried out the river. Many of the large crocodiles did not have enough water to submerge themselves completely, and some were found in this situation and shot by local people (figure 1). These occurrences are probably not all that important, but they are worrying.

During the collecting period (May 25 to May 29) fewer hatchlings and juveniles (of less than 1.5 m) were seen than on previous years, but they may have already dispersed due to the early rains in April and the opening of the Majaguas Reservoir sluice gates. This latter event flooded many of the nests. A technical report is being prepared for MARNR in order to avoid future catastrophic flooding by the reservoir during the crocodile nesting period. The report also contains suggestions for mitigating the effect of maintenance dredges that are working upstream. These dredges are producing the most negative impact on the Cojedes population, but manual labor could be substituted for a cost of between Bs.400,000 and 500,000 (U.S. \$ 10,000) per year. This budget includes a small wildlife protection unit. The author is grateful to Dr. Stefan Gorzula for translating the manuscript.

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- Dr. Jose Ayarzagüena, *Fundacion La Salle, Apt. 1930, Caracas, Venezuela.*

## NORTH AMERICA

### **United States:**

MYSTERY CROCS UNMASKED: PLANNED PARENTHOOD FOR PHILIPPINE CROCS. Several years ago, Gator Jungle in Plant City, Florida, acquired a stock of Morelet's crocodiles *Crocodylus moreletii* for exhibition. Included with this purchase were two animals that were