

Preliminary Notes on the Status and Conservation of *Caiman latirostris* in the State of São Paulo, Brazil. Directions of the Captive Breeding, Reintroduction, and Management Program

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Introduction

The interest on breeding broad-snouted caiman (*Caiman latirostris*) in captivity has increased in Brazil in the last years. It may be due to the increasing awareness of the public opinion about the environmental problems of the country, including the risk of extinction of many species, and the search for new productive species for a critical market. In general, caiman-farmers have only utilized the alligator-farm model, in despite of the differences between both species in relation to body size, growth capacity, skin features, and commercial value. This issue can be responsible for management mistakes, death of animals, waste of resources, and discredit of wildlife management as an economical choice in Brazil.

Status

Historic: The human colonization began in Brazil by the Atlantic shore and São Francisco / Paraná River systems, where the biggest cities flourished and most of the population grew up. This was, however, the original distribution zone of the broad-snouted caiman (Fig. 1). Therefore, this species underwent the frontal impact of the Brazilian human colonization. Illegal

hunting and habitat destruction were the consequences that brought the species to the threat of extinction.

Current: Our current survey in the State of São Paulo has been based on night counts and people accounts on the districts of Anhembi, Agudos, Bauru, Limeira, Mococa, and Piracicaba (Fig. 2). We have found groups from one to fifteen animals in habitats such as open rivers, dams, marshes, swamps, and even in decanting ponds of industrial or human drainage. We have also found two pinus-leaf nests which were the only available material to the nesting female. These preliminary results show the possibility of the species being colonizing this new habitats and adapting itself to these new conditions. However, it is necessary to quantify the presence of the species in the environment in terms of its populational dynamics in order to have a conclusive idea.

Conservation

The broad-snouted caiman is an endangered species (Vanzolini, 1972; Groombridge, 1982; and Bernardes et al., 1990). Its hunting is prohibited in Brazil by the Federal Law No. 5.197 from 03/01/1967, and the captive breeding is regulated by the Governmental Decrees Nos. 132/88 from 05/05/1989 and 250/88 from 22/08/1988. The international trade of its products is refused by CITES (King, 1973).

The decrease of industrial pollution has permitted a certain recovering of the species in some places of São Paulo State. We have been told the appearance of broad-snouted caiman in Piracicaba River, close to the City, at the same time as its water pollution decreases.

Hunting still occurs in São Paulo in despite of the law. It is mainly done as a hobby by men from little or middle riverain counties, who use rifles to kill caimans, capibaras, deer, and other species at night. They utilize the meat in special dishes and take the skin as a game trophy. The real damage of this activity on caiman remaining populations is still unknown, but it is undoubtedly considerable. The private properties have in general more protection against hunters because of the landowner's increasing awareness of environmental issues.

Directions of the Captive Breeding, Reintroduction, and Management Program

Captive Breeding: We carrying out a one-and-a-half year-old captive propagation program, aiming at the reintroduction in nature and the furnishment of captive born individuals for caiman farmers. In 1989 we had 34 hatchlings from two nests at our quarters in Piracicaba. from 1990

on we are going to manage breeder groups in most of the Brazilian zoos, through the Brazilian Society of Zoos (SZB), considering the demographic and genetic aspects of the captive populations, according to Foose et al. (1986). According to the Reptile Census from SZB, there are 279 broad-snouted caiman in captivity in Brazil (60 males, 48 females, and 146 undetermined). Other 18 animals (9 males, 3 females, and 6 indetermined) must be added because they were not listed by the Census. From this total amount 55 were born in captivity last year.

Reintroduction: We are carrying out a survey of the most adequate and priority places for the reintroduction of the species in São Paulo. This study includes the analysis and description of biotic and abiotic site components and the environmental impact evaluation of the reintroduction process (Gysel & Lyon, 1980).

Management purposes: The economic potential of the broad-snouted caiman increases its management and conservation perspectives. However, its geographical distribution is quite heterogeneous in social-economic terms. This zone includes from highly industrialized areas to under-developed agricultural regions. Consequently, the management system to be adopted must be a function of this feature. The avian crop of São Paulo generates a great amount of scraps and discards like carcasses of cockerels and hens dead during the productive cycle, and male young chickens of laying-hen lineages. These materials can be offered as a low cost food to the caiman-farmers, in the vicinity of chicken producers (Verdade et al., in press). Where there is no low-cost food available, the best management system probably is the introduction or reintroduction of the species in dams or ponds (e.g., artificial ponds on cow ranches and hydroelectric power stations' dams). After some years the population exceedings could be exploited. The adequate management system according to local conditions could be a possible economic utilization of the broad-snouted caiman through the trade of skin, meat, souvenirs, and tourism, assuring this way, its conservation. Anyway, it is important to stress that any management plan must begin with the captive propagation, besides short-term captivity studies about feeding, reproduction, behavior, and sanity, and long-term field studies about ecology, and behavior. The captive studies should increase the reproductive efficiency and hatchling survival and growth.

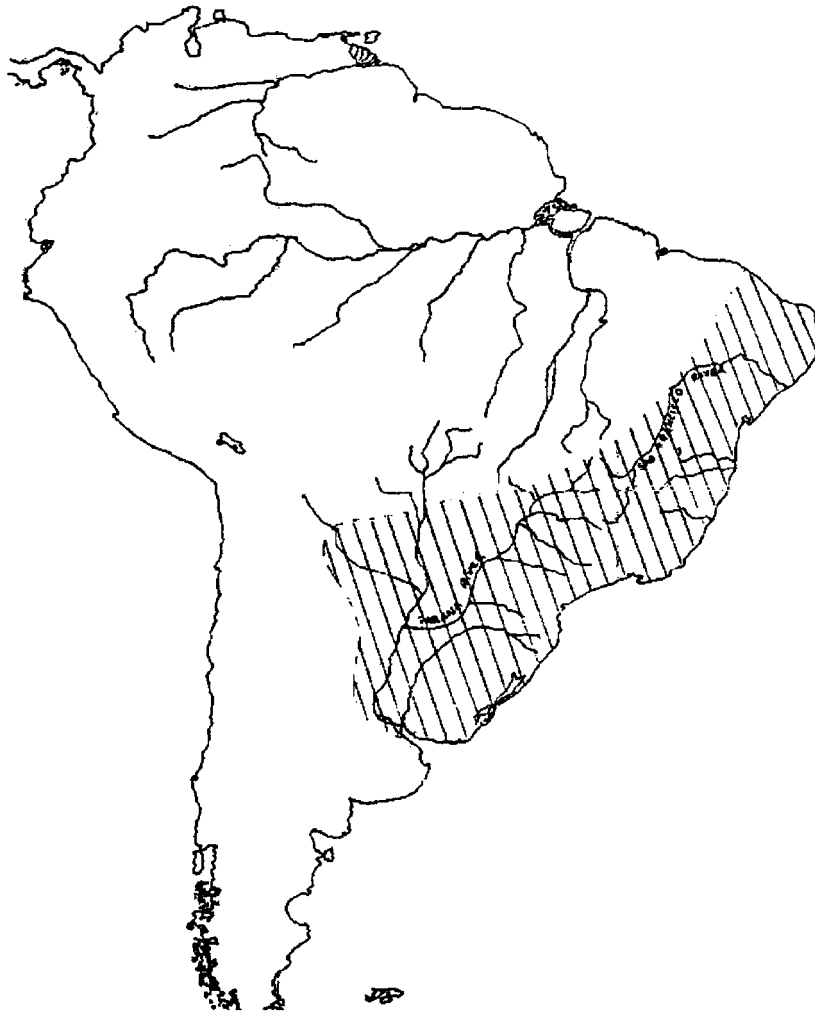


Figure 1. Geographical distribution of *Caiman latirostris* (according to Brazaitis, 1973 and Groombridge, 1982).

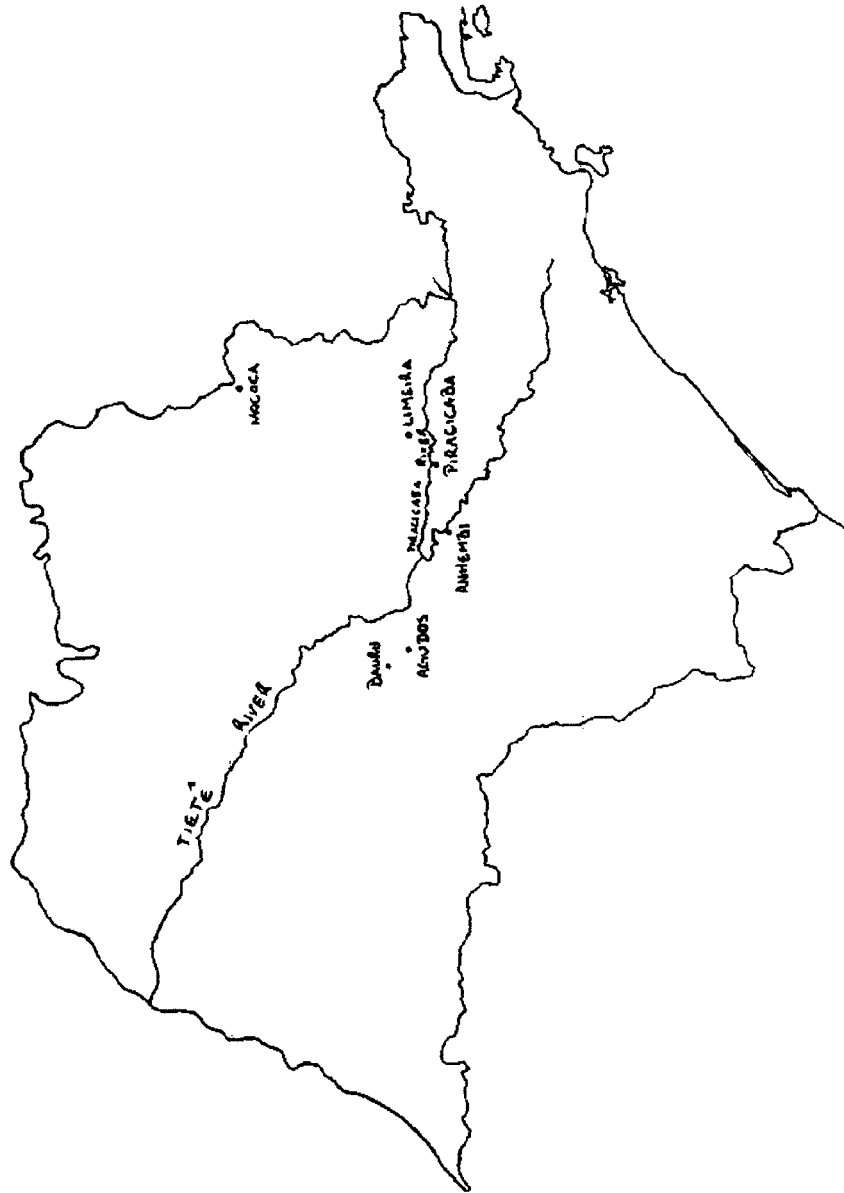


Figure 2. Places surveyed in the State of São Paulo

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