

Schneider's Smooth-fronted Caiman

Paleosuchus trigonatus

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Common Names: Smooth-fronted caiman, Schneider's smooth-fronted caiman, Cachirre, Jacaré-coroa

Range: Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Peru, Suriname, Venezuela



Figure 1. Distribution of *Paleosuchus trigonatus*.

Conservation Overview

CITES: Appendix II

CSG Action Plan:

Availability of survey data: Poor

Need for wild population recovery: Low

Potential for sustainable management: Low

2009 IUCN Red List: LRLc (Lower Risk, least concern. Widespread and remains locally abundant, although quantitative data are lacking; IUCN 2009) (last assessed in 1996).

Principal threats: Habitat destruction, local subsistence hunting, pollution, urbanization

Ecology and Natural History

The Smooth-fronted caiman is somewhat larger than the dwarf caiman (*P. palpebrosus*), with a maximum male length of around 2.3 m (Medem 1981). It has a similar distribution to the latter, but does not enter the Brazilian shield region or the Paraguay River drainage. In Brazil, *P. trigonatus* is found principally in the rivers and streams of heavily forested habitats (Magnusson 1992), in igapó forest in the Central Amazon (Mazurek-Souza 2001), and open water or near waterfalls in the large Rivers such as Mamoré-Madeira-Abunã (Vasconcelos and Campos 2007) and Beni River (Zilca Campos, pers. comm.). In Venezuela, *P. trigonatus* is principally restricted to chemically poor rivers and streams of the Guyana Shield and western llanos (Godshalk 1982; Gorzula and Paolillo 1986; Gorzula *et al.* 1988), and has been reported at elevations up to 1300 m. The habitat in Bolivia is similar to that reported for *P. palpebrosus* (King and Videz-Roca 1989).



Figure 2. *Paleosuchus trigonatus*. Photograph: Zilca Campos.

Magnusson, W.E. and Campos, Z. (2010). Schneider's Smooth-fronted Caiman *Paleosuchus trigonatus*. Pp. 43-45 in Crocodiles. Status Survey and Conservation Action Plan. Third Edition, ed. by S.C. Manolis and C. Stevenson. Crocodile Specialist Group: Darwin.

Hrbek *et al.* (2007) showed genomic evolution of *Paleosuchus* spp. in the upper Madeira River. Future studies will target variability of genetics and morphometrics of individuals in Mamoré-Madeira-Abunã systems and others rivers within the Amazon.

Magnusson (1989) summarized much of the published information on this species. Pritchard (1995) reported a specimen emerging from the sea onto a beach in Guyana, although the identification of the specimen may be in question (Ross *et al.* 1995). Ecological studies on this species by Magnusson (1985) and Magnusson *et al.* (1987) revealed that the diet is comprised to a large extent of terrestrial vertebrates. Juveniles and adults consume vertebrates such as small fish, birds, reptiles and mammals (Magnusson *et al.* 1987), and a predation event by *P. trigonatus* on *Bufo marinus* (cane toad) in northern Brazil was described by De Assis and Santos (2007).

Egg-laying apparently takes place at the end of the dry season and many of the mound nests are located adjacent to or on top of termite mounds, thereby maintaining a stable elevated nest temperature (Magnusson *et al.* 1990). Incubation period appears to be the longest of any crocodylian - in excess of 100 days (Magnusson *et al.* 1985; Magnusson 1989). Rivas *et al.* (2001) describe a *P. trigonatus* nest with 16 eggs in the Ecuadorian Amazon Basin, in terra firma habitat, and measured 5 hatchlings.



Figure 3. *Paleosuchus trigonatus*. Photograph: Zilca Campos.

Conservation and Status

As with *P. palpebrosus*, surveys have mostly been conducted for other species of crocodylian throughout much of the range of *P. trigonatus*. Owing to the limited potential for commercial exploitation, *P. trigonatus* has been hunted mostly on a subsistence basis and populations appear to remain healthy throughout the species' range. Environmental pollution associated with gold mining in Venezuela and Brazil (and increasingly in Bolivia and Peru) appears to be having an increasingly negative impact on riverine ecosystems and is affecting this and other crocodylian species.

Due to small body size and extensive ventral ossification, the commercial value of the skin of *P. trigonatus* is very low. The management of *P. trigonatus* is based principally on the protection of wild populations. Limited cropping is only allowed in Guyana, essentially for the pet trade, under a CITES quota.

Priority Projects

High priority

1. **Monitoring abundance and evaluation of habitats:** *Paleosuchus trigonatus* apparently resists the pressure of habitat destruction, deforestation and dams as well as the pressure of hunting in the Amazon and Mamoré-Madeira-Abunã River systems. Surveys are urgently required in all Range States for *P. trigonatus* in order to quantify the status and assess potential threats. With this knowledge, proper conservation management programs can be evaluated.
2. **Investigations on ecology and population biology:** Although more is known about the behavior and ecology of this species than of *P. palpebrosus*, many aspects of the life history of *P. trigonatus* remain uninvestigated. One of the important management-related topics is to determine the effect of gold mining, dams, urbanization and illegal hunting on populations of *Paleosuchus*.

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