

reorganise it, ensuring the sustainability of a fine institution. I remember his wife “Pipi”, who survives him, and is as gracious as Harry often appeared not to be, telling me with concern that she had never seen him work so hard.

His retirement from the Crocodile Specialist Group in 2004 saw a decline in his active participation in crocodilian conservation matters, but he remained active, travelled often, and seemed to enjoy life immensely. He had mellowed - but just a little. His last trip to crocodile country in the Northern Territory was in 2008, and his last outback camping adventure into the Simpson Desert was in 2012 - at 90 years of age! If there is a single legacy from Harry Messel that stands out, it is his personal conviction that “The Pursuit of Excellence” is a laudable goal in life - not just in science and conservation.

Professor Grahame Webb, CSG Chairman [modified slightly version to that provided to the Species Survival Commission of the IUCN].

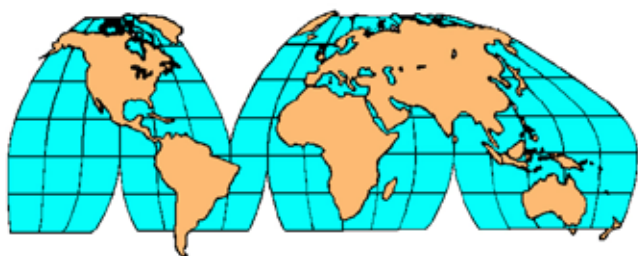
CSG Student Research Assistance Scheme

The CSG Student Research Assistance Scheme (SRAS; <http://www.iucncsg.org/pages/General-Information.html>) provided funding to two students in the July-September 2015 quarter.

1. Abel Ricardo Pineda Avendaño (Colombia): Population ecology of *Crocodylus acutus* and *Caiman crocodilus fuscus* in Urra Reservoir, Cordoba, Colombia.
2. Andre Yves (Brazil): Population structure of Broad-snouted caiman in Rio Doce State Park, Brazil.

Tom Dacey, CSG Executive Officer, <csg@wmi.com.au>.

Regional Reports



Latin America and the Caribbean

Brazil

CONSERVATION STATUS OF THE DWARF CAIMAN *PALEOSUCHUS PALPEBROSUS* IN THE REGION OF THE ARAGUAIA-TOCANTINS BASIN, BRAZIL. The Dwarf caiman (*Paleosuchus palpebrosus*) occurs in 10 South American countries (Medem 1981), including Brazil, where the species is widely distributed except in the southern part of the country (Magnusson 1989). In the latest conservation assessment by the Crocodile Specialist Group, Magnusson and Campos (2010) reported threats to

P. palpebrosus populations and their habitats. Campos *et al.* (2013) recommended the establishment of permanent aquatic reserves for the protection of the species in Brazil.

Based on IUCN criteria for endangered species, *P. palpebrosus* falls within the category of “Low Concern,” mainly due to its large area of distribution. However, *P. palpebrosus* is a highly secretive species that lives in environments such as springs and headwaters of fast-running rivers, wetlands, flooded forest and swampy plains between hills (Medem 1981; Magnusson 1989; Campos *et al.* 1995), which are environments under strong anthropogenic pressure. Until about 20 years ago, very little was known about the species, except for the pioneering work of Medem (1981) in Colombia and Magnusson (1989, 1992) in the Brazilian Amazon. This lack of information had been pointed out as a problem for the conservation of the species (Thorbjarnason 1992).

Efforts have focused on increasing the body of scientific knowledge about the species, not only in the region of the Pantanal wetland but also in those of Guapore-Mamore-Madeira and the Central Amazon (Campos *et al.* 1995; Campos and Sanaiotti 2006; Botero-Arias 2009; Campos *et al.* 2010, 2011, 2015; Campos and Magnusson 2013). Nevertheless, their unique environments continue to be under threat, their habitats being modified and/or destroyed by human activities such as urbanization, road construction, hydroelectric plants, deforestation, pollution, mining, and subsistence and accidental hunting (Campos and Mourão 2006). Muniz (2012) warned that the fragmentation of *P. palpebrosus* populations in the Pantanal and the Amazon, resulting from habitat destruction, directly affects the species’ genetic variability.

The Cerrado biome is considered one of the world’s hotspots that is under serious threat of disappearing, and the last remaining 20% of this biome is under direct threat of expansion of agribusiness involving soybeans, cereals and other cash crops (Myers *et al.* 2000). Few studies of the Dwarf caiman have been carried out in the Cerrado biome (Vilhaça 2004; Carvalho Jr and Batista 2013). We investigated the threats to the conservation of Dwarf caiman along river banks, swampy plains between hills, and small tributaries of the rivers and secondary tributaries of the Araguaia-Tocantins Basin which flow through the Cerrado.

In October 2014 we traveled almost 5000 km to the aquatic environments of the Dwarf caiman in the Araguaia-Tocantins Basin (14°54’S, 51°5’W), central Brazil, to document the conservation status of their environments. This area is one of the regions studied by Fábio Muniz during the course of his doctorate at INPA/UFAM, with Tomas Hrbek and Izeni Farias as mentors, and Zilca Campos as co-supervisor. During this field trip, we carried out surveys in the evenings to identify the presence of the species in the Garças, Mortes, Araguaia and Tocantins Rivers and their smaller tributaries.

During this survey, we found that most of the Cerrado vegetation has been replaced with cotton or soybean plantations, depending on the time of year, which stretch all the



Figure 1. (left) Pastures in permanent preservation area in the Garças River; (centre) Housing in permanent preservation area in the Garças River; (right) Beaches formed due to deforestation of the Araguaia River.

way down to the banks of small streams, in the riparian forests in the rivers. The typical plain formations of the Cerrado, which are important areas of springs and swamps, have been completely destroyed and transformed into watering holes for cattle, with rarely a swampy plain left intact. The gallery forests of the Araguaia, Garças, and Mortes Rivers have been cut down to make way for pastureland for cattle and human settlements (Fig. 1). The destruction of gallery forests has caused the erosion of soil, which is carried down to riverbeds, forming beaches that the locals use for leisure and recreation (Fig. 1). We found no Dwarf caiman along these stretches of river altered by anthropic activities and by intense traffic of people and boats, and the species was limited to stretches of river with preserved gallery forests.

Crocodylians are being hunted in this region, and we found a dead Black caiman (*Melanosuchus niger*) and a dead Spectacled caiman (*Caiman crocodilus*) at the Araguaia River (11°43'S, 50°43'W). The situation observed on the Tocantins River and its tributary streams was similar to that of the Araguaia River. However, the most striking change is the construction of dams for the formation of reservoirs for the region's hydroelectric plants (Fig. 2). The permanent flooding of areas of gallery forests due to river damming has brought the nesting areas of caimans close to roads and cities, making these previously protected and remote areas easily accessible along the roads.



Figure 2. Permanent Preservation Areas flooded by hydroelectric dam on the Tocantins River.

The threats are similar to those found in the surroundings

of the Pantanal (Campos and Mourão 2006), but with the aggravating factor that the process of human occupation in the Araguaia-Tocantins Basin is continuous, intense and growing. In Brazil, this central region of the Dwarf caiman distribution is considered an agricultural region and much of the native vegetation has already been transformed into monoculture, and its aquatic environments have been fragmented. The roads are duplicated and asphalted in order to link cities and transport the crops produced in the region. Today there is also a railway for transporting crops from the region for export through Brazil's ports. Brazil's new Forest Code (Law No.12651/2012) for the region establishes the protection of 20% of a rural properties, and the restoration of permanent preservation area (PPA) in 30-m wide protective strips along up to 10 m wide. However, small streams and wetlands are not protected. The Dwarf caiman still appears to persist in preserved and uninhabited stretches of rivers, but these stretches are dwindling in the region of the Araguaia-Tocantins Basin, and if nothing is done, the area of distribution of this species may be restricted solely to the region's Conservation Units.

Acknowledgments

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South Asia and Iran

India

CROCODILE SURVEYS IN CORBETT NATIONAL PARK 2015. Surveys in areas in Corbett National Park (CNP) of the Corbett Tiger Reserve (CTR) were conducted in March 2015 as a part of the on-going Crocodylian and Freshwater Turtle Research and Conservation Project being implemented by Subir Mario Chowfin and Dr. Alison Leslie. Surveys in CNP include the use of trail cameras, shoreline surveys by boat, and stationary counts from vantage points (see Fig. 1).



Figure 1. Vantage point locations on the Ramganga River in Corbett National Park, Corbett Tiger Reserve.

The surprise of the season was the recording of 17 adult Gharial (inclusive of 2 adult males) on the Ramganga River between Gairal and Ghetia Rao, based on vantage point observations at High Bank and Champion's Pool. Previous surveys of this stretch of the Ramganga River recorded 3 adults (inclusive