

Project *Mecistops*

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I've always been a reptile nerd, one of those kids that prefer snakes as pets to dogs. My parents always supported my fascination with the less understood of animals, even though it was inevitably my mother who found them, usually in the middle of the night, after they occasionally escaped from their cages! I suppose, then, that it came as no surprise when I told them of my plans to study crocodiles – and not just any crocodiles, but African crocodiles – and not just any African crocodiles, but those found in western Africa – arguably the most daunting geopolitical zone in the world for biodiversity research and conservation.

It was during my first real research expedition, surveying birds in Equatorial Guinea (EG), that I learned about Africa's slender-snouted crocodiles of the genus *Mecistops* and how we essentially knew nothing about them. These enigmatic crocodiles are denizens of forested, freshwater wetland habitats from the Gambia River (Gambia) to Lake Tanganyika (Tanzania). Despite the challenges and potential risks, I was not to be dissuaded and, beginning in 2006, I initiated a series of studies that led to the identification of two evolutionarily divergent species of slender-snouted crocodile: one distributed west of the Cameroon highlands (West African slender-snouted crocodile *Mecistops cataphractus*) and the other to the east of this iconic biogeographic barrier (Central African slender-snouted crocodile, as yet unnamed). My analyses further showed that the two species have been isolated from each other for as long as ± 8 million years!

The conservation implications of recognizing two slender-snouted crocodile species are significant. Over the course of my research, I surveyed $\pm 3,000$ km of crocodile habitat at nearly 200 sites throughout West and Central Africa. While I ultimately ran into about 2,000 slender-snouted crocodiles, less than 50 of them were in West Africa, spread over four different countries, and, of these, only three were breeding-size adults. As for many species in this imperiled landscape, I identified large-scale loss of habitat, illegal hunting, and conflict with artisanal fisheries as the major threats facing slender-snouted crocodiles in West Africa, which have resulted in highly fragmented, reduced populations throughout this region.

With enough data in hand, I finally undertook to evaluate slender-snouted crocodiles for the IUCN Red List in 2014. While continually threatened by bushmeat hunting, artisanal fisheries, and habitat loss, Central African slender-snouted crocodiles are still relatively abundant, particularly in Gabon and parts of northern Congo, making it only Vulnerable (VU) to extinction. In contrast, there are no known abundant West African slender-snouted crocodile populations, and the only ones that may be close to sustainable are, at best, tenuously protected in a few national parks (e.g., River Gambia, Sapo, and Tai). As a result, the West African slender-snouted crocodile was evaluated as Critically Endangered (CR), making it the most critical crocodile conservation priority in Africa and one of the most endangered species globally.

After nearly eight years working on these species, it was clear I couldn't just standby and leave them to their fate, which is why I created Project *Mecistops*. My team and I are battling to reverse the extinction trajectory of the West African slender-snouted crocodile through captive breeding, reintroduction, and capacity building. Our breeding colony of 30 adults at the Abidjan National Zoo is the largest in the world. Improved captive management since 2013 has seen us go from 78 eggs incubated in Styrofoam coolers in a volunteer's house with 0% hatch rate in our first year, to 110 eggs incubated in proper incubators at the zoo with 25% hatch rate and 90% survival to year 1 now in our third year. We began searching for reintroduction sites in September 2014 and, to date, have surveyed nearly 1,000 km of crocodile habitat in eight Ivorian protected (national parks, forest reserves, faunal reserves) and two unprotected areas.

Though we've observed 182 slender-snouted crocodiles, a nearly 370% increase in the known global population, we're still seeing few adults (only 17 detected), few hatchlings, and 75% of all observations were in a single national park.

Project *Mecistops* brings together international and West African zoos, government agencies, universities, NGOs, and people to advocate for crocodile conservation in the region. By working in close collaboration with our Ivoirian partners OIPR (national parks authority) and the University of Nangui-Abrogoua, we help to ensure the sustainability of Project *Mecistops* by identifying and supporting West Africa's rising conservationists and facilitating capacity development at the institutional level to monitor and protect crocodile populations. Our mentee cohort recently founded the Young Crocodile Specialists of West and Central Africa, which they formally presented to the IUCN Crocodile Specialist Group. The strengthening of this network of crocodile conservationists in West and Central Africa is undoubtedly one of the biggest successes of Project *Mecistops* to date.

Project *Mecistops* is the first ever project in Africa specifically designed to reinforce and revive locally extinct crocodile populations and, as a result, is already seeing a trickle-down effect into other crocodile and wildlife management needs regionally. A few years ago, my high school Spanish teacher sent me a copy of an essay I wrote in which she asked us to describe where we see ourselves at the age of 30. I apparently had dreams of living in Madagascar studying its unique reptiles and amphibians. Even though I've traded Spanish for French and Madagascar for West Africa, I'm confident that my 15-year-old self would be pleased with Project *Mecistops*. While much work remains to ensure its future, the West African slender-snouted crocodile is quickly becoming a platform from which our team is making significant contributions to burgeoning wildlife conservation efforts in Cote d'Ivoire and throughout West Africa.