CROCODILE NIGHT SHIFT

Slender-snouted, dwarf or Nile: for crocodile researcher Mitch Eaton these prehistoric reptiles hold a special fascination. Why else would he wrap his arms around one?

IT IS 2AM AND PITCH BLACK. OUR CANOE, loaded down with supplies and research gear, will be our home for the next few days as we explore the Echira River, a forested tributary flowing westward towards the Iguela Lagoon in Loango National Park (NP) on Gabon's southern Atlantic coast.

The forest is quiet at this hour; the only sound comes from the rhythmic dip of our paddles. We navigate by headlamp, the thin beam slicing through the darkness. As we slip downstream, I scan the vegetation-choked banks for a glimpse of eyeshine or fleeting creatures at the river's edge. The forest may be still at this hour, but it is not empty. Some animals, like forest elephants, can be formidable at night and we want to avoid any chance encounters that could spell disaster for our tiny craft.

Why are we travelling in the dead of night? To catch crocodiles... Despite having a rather sullied reputation as aggressive man-eaters, crocodiles are actually reclusive animals that shy away from danger by lying submerged until dangers pass. They are wary by day, so to observe them we have no choice but to work by night.

The Echira River contains an impressive population of Africa's most endangered saurian, the slender-snouted crocodile. Easily distinguished from other African species by its elongated narrow snout, it has a primarily fish-based diet and prefers the clear lakes and swift-moving rivers of Central and West Africa. It is among the most vocal of the world's crocodiles. The behavioural functions of these vocalisations are still unclear, but perhaps serve to defend territories or attract mates.

My assistant, Basile Koumbe, an ecoguide from Loango NP, and I paddle into a swampy pond. Scores of silvery fish leap into the air as the beam from my headlamp skims the surface. It's a good sign. The fish are an abundant food source for the crocodiles. As if in response, the ruby-red glow of crocodile eyes blink on and off as my light reaches the edge of the water and catches the reflective membrane on the back of their retinas.

Aggression or passion?

Circumnavigating the pond's perimeter, I count 23 individuals. Most are slender-snouted but we can also see one or two dwarf crocodiles, the second of the three crocodile species found in Gabon. As we approach, I accidentally strike the gunwale of the canoe with my wooden paddle, sending a hollow reverberation through the darkness.

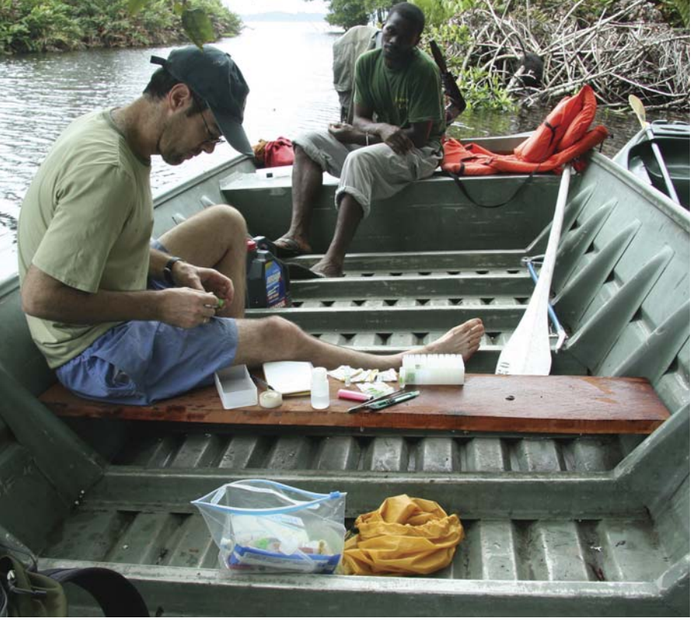
As if on cue, the entire group of slender-snouted crocodiles erupts in guttural ghost-like bellowing, sending a chill down my spine. Several three-metre-long animals swim swiftly towards us. I don't know if their intentions are aggressive or amorous, but I fear either will result in our capsizing. My only option is to use the paddle end to rap each individual on the nose, repelling the advance.

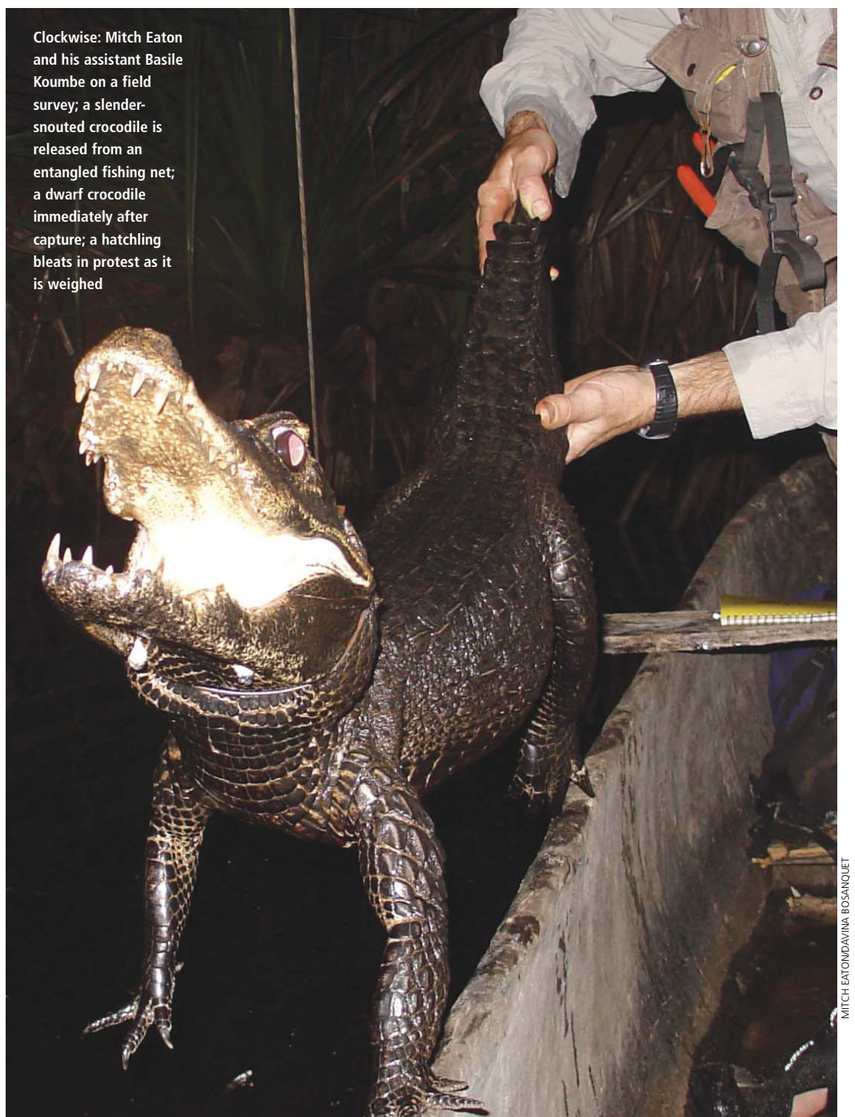
The Echira flows into the River Ngové and finally through Loango NP. The purpose of our expedition is →

> "CROCODILES ARE RECLUSIVE ANIMALS THAT SHY FROM DANGER LYING SUBMERGED UNTIL DANGERS PASS"

This page, clockwise: A dwarf crocodile with a captured land crab in its jaws; the piercing eye of a Nile crocodile; three generations of dwarf crocodiles. Research shows that baby crocodiles cry out from within the egg to show their mothers they are ready to hatch

MITCH EATON, GETTY





Clockwise: Mitch Eaton and his assistant Basile Koumbe on a field survey; a slender-snouted crocodile is released from an entangled fishing net; a dwarf crocodile immediately after capture; a hatchling bleats in protest as it is weighed

MITCH EATON/DAVINA BOSANQUET

> **"THE RARER NILE CROCODILE IS SLOWLY MAKING A COMEBACK THANKS TO RECENT LEGISLATION"**

to collect information on this slender-snouted crocodile. For this field mission, we are focusing on a 25km stretch of water that my surveys suggest is one of Central Africa's hot spots for these little-known crocodiles and a good candidate as an area for protected status.

Like the Nile crocodile, the slender-snouted was heavily hunted throughout the 20th century to supply the international leather trade. Populations were devastated as hunters scoured Gabon's waterways for the largest individuals. Interviewing villagers near Mayumba National Park to the south of Loango, I learnt that hunters from as far away as Senegal arrived in the 1970s, killing hundreds of crocs in months.

Crocodiles are long-lived, slow-growing reptiles, with some species not reaching reproductive age for 20 years or more. As hunters often target older, larger animals, they can unwittingly remove all of the reproductive class from the population. During a ten-day survey there, I observed only one small slender-snouted crocodile and not a single Nile. The hunters had culled the more gregarious Niles while a few of the fish-eaters may have found refuge in less accessible waterways deeper in the forest.

Nile crocodiles prefer to bask in more open habitat near the coastal lagoons, increasing their vulnerability to hunters. The slender-snouted species, on the other hand, bask on the trunks and branches of fallen trees in remote forest streams. This may have given them a slight advantage over Nile crocodiles from the impacts of hunting.

A gradual recovery

In the 1980s, no sightings of crocodiles were recorded along vast stretches of Gabon's coast, implying that extensive, unmanaged hunting had taken its toll. Nearly 20 years later, I observed Niles beginning to repopulate many coastal lagoons. Their size and distribution along Loango's coast suggests that they are slowly making a comeback and, if well managed, could return to their former distribution. This recovery is a testament to the positive impacts of international legislation in 1975 regulating the global trade in wildlife products, which largely ended commercial hunting of crocodiles in Africa.

Hunting is not the only threat that crocodiles face however. The accumulation of contaminants from the environment also poses risks. Recent die-offs of the endangered gharial in India and Nile crocodiles in South Africa have been attributed to polluted streams and poisoned fish. Although the risks are small, extensive oil-production activities on Gabon's coast could increase the threat to wildlife. Drowning in fishing nets is another.

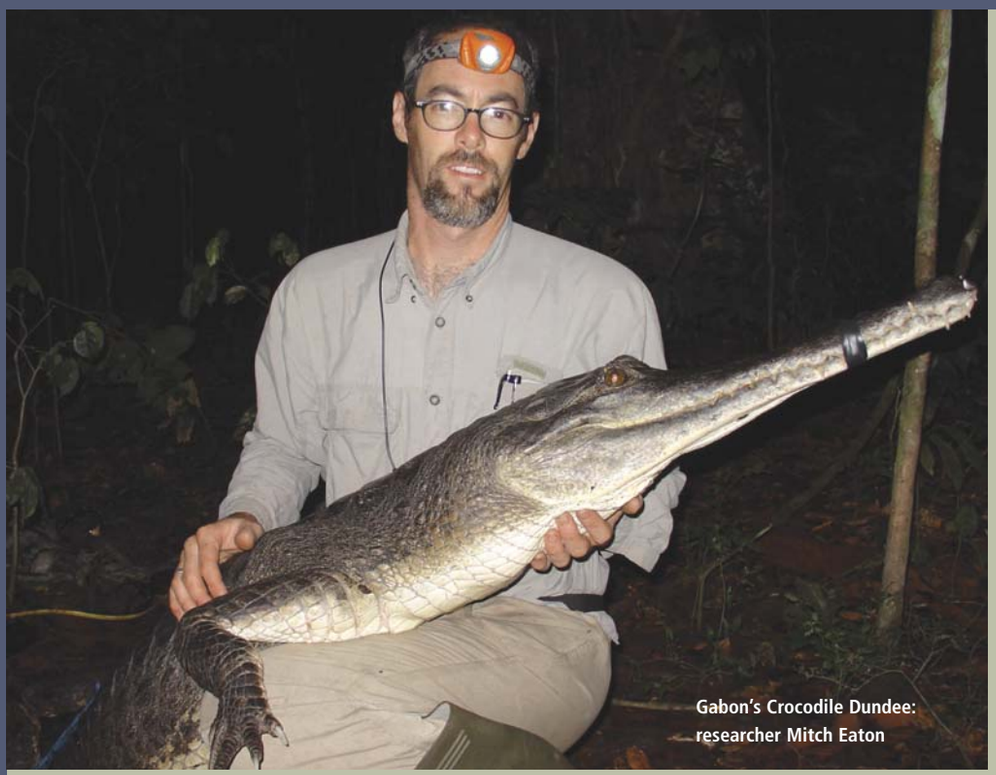
Gabon is remarkable for its diversity and abundance of wildlife. Through the recent creation of its national-park system, it has demonstrated to the world a willingness to protect these natural resources. However, more work needs to be done to secure the future of Gabon's wild areas and to enable us to discover the hidden diversity in these forests. With only three years of research in Central Africa, I was able to show that the dwarf crocodile is not one, but three, distinct species. Doubtless other discoveries await, but new species have little chance to be found unless we preserve large regions of undisturbed habitat.

After four days of exploring the Echira's black waters, we are tired and dirty, but exhilarated by what we have seen. We recorded 188 crocodiles in a 23km stretch of the Echira River, possibly one of the highest densities of slender-snouted crocodiles anywhere in Africa. It is my hope that the government of Gabon will consider this region important enough to annex it to Loango NP and ensure its long-term protection. The crocodiles really set it apart. ■

Mitch Eaton conducted this research as part of his PhD at the University of Colorado, US

Crocodile tears. Wildlife is an essential food source for rural villagers but commercial bushmeat hunting is a growing threat throughout Central Africa. Dwarf crocodiles are well suited for the modern bushmeat trade – their small size and reptilian metabolism allow them to be shipped alive to urban markets without refrigeration. They arrive as fresh meat which commands a higher price than smoked meat. "I can't think of another species for which this is true," says Mitch Eaton. "We know nothing about the dwarf crocodile and what level of harvest it can withstand. I see this as a potential disaster, both for the crocodile and the villagers who depend on them for food."

UP CLOSE: MITCH EATON



Gabon's Crocodile Dundee: researcher Mitch Eaton

DAVINA BOSANQUET

I suspect that when people think about catching crocodiles, they think of Crocodile Dundee! Do you really wrestle with them?
I try hard not to wrestle the crocodiles, but sometimes it does happen. Crocodiles are on a very tight energy budget in these low-productivity swamps – any energy expended wrestling with me means a greater likelihood of hurting the animal or a slower recovery from the stress of capture. I try to subdue the crocodile as quickly and quietly as possible. This often means capturing it by hand rather than with a noose snare, as this does not give it the opportunity to thrash about. While capturing a large crocodile can be quite exciting, most of the drama is put on for the TV audience.

What is the largest crocodile you captured in Gabon?
I caught a 3-metre-long female Nile croc. My assistant and I spotted it near the opposite bank. As we moved closer, I looped a noose snare, attached to a bamboo pole, over the snout and head to secure it around her neck. Near shore, the lagoon was not very deep and I was able to step out of the canoe, avoiding what we in the US call a 'Nantucket sleigh ride' (a descriptive phrase from the whaling days when a sperm whale would tow a ship around by its harpoon line). I manoeuvered the canoe to avoid her crashing into me as she wound herself up in the rope like a yo-yo. My assistant and I secured her by taping her snout and tying her legs. She weighed nearly 100kg.

Have you had any close calls and what do you have to be careful about in terms of your own safety?
My scariest moments have actually always involved animals other than crocodiles. Working at night in the forest brings out wildlife, and behaviour, not often seen in the daytime. Elephants don't seem to like flashlights very much. At least once I've been ambushed by an angry elephant. The last time, we had to run in the dark and climb the nearest tree. Hippos also cause us trouble. Once, the narrow stream we were travelling along was blocked by a large male hippo. We waited for it to move, but it submerged. I walked out into the stream on a fallen tree to get a look around a bend in the river, and then looked down, and there, no more than 30cm from my feet, were the nostrils of the hippo opening and closing. That almost stopped my heart! Fortunately, this one wasn't interested in biting our canoe in half, just staying out of our way.

There can't be many people who would enjoy clambering through crocodile-infested swamps. What exactly is it that you find so attractive about the species?
Stomping around in leech-riddled swamp forests at night still appeals to the 13-year-old boy in me! I've always liked reptiles and I became interested in dwarf crocodiles when studying bushmeat markets in the Republic of Congo for my Master's degree. I saw how they were captured and kept alive without food or water. I observed boat-loads of live dwarf crocs being shipped from the forests of northern Congo to Brazzaville and how local vendors would store them until other wildlife became temporarily unavailable. Unfortunately, these hardy properties make them the equivalent of a biological savings account.

Do baby crocodiles really scream when separated from their mothers?
It's more like bleating or crying. Babies that are ready to hatch cry out to get the attention of the mother guarding her nest. She then knows it's time to help release the babies by gently crushing the egg shells in her mouth. Crocodiles are amazingly sensitive and gentle with their young. The second function of the bleat is to alert that they are in danger. Often when I catch hatchlings, they cry out and one or both parents come to their aid. This can be intimidating when I am waist-deep in a pool, hands full of hatchlings. Crocodiles are the only reptile, I believe, that display parental care after their offspring are born.

We often talk about someone having crocodile tears. Do crocodiles really cry?
No, crocodiles don't really cry. They often close their eyes when tearing into prey to protect themselves from flying hooves or claws. Perhaps this is where the myth originated. It is a very evocative image. Beyond this, their eye structure is interesting. Crocodiles have a second, transparent, eyelid below their bony eyelids, called a nictitating membrane. They close this while swimming to protect their eyes, which still allows them to see underwater. An amazing adaptation.

Why do you think they did not become extinct like the dinosaurs they are so closely related to?
We really have no idea. Many species of ancient crocodiles did become extinct along with the dinosaurs at the end of the Cretaceous period. But some ancestors of modern crocodiles did survive. One possibility is that living in water might have provided some buffer to crocodiles because as climatic conditions changed many of their aquatic prey survived as well.

Interview by Sarah Monaghan