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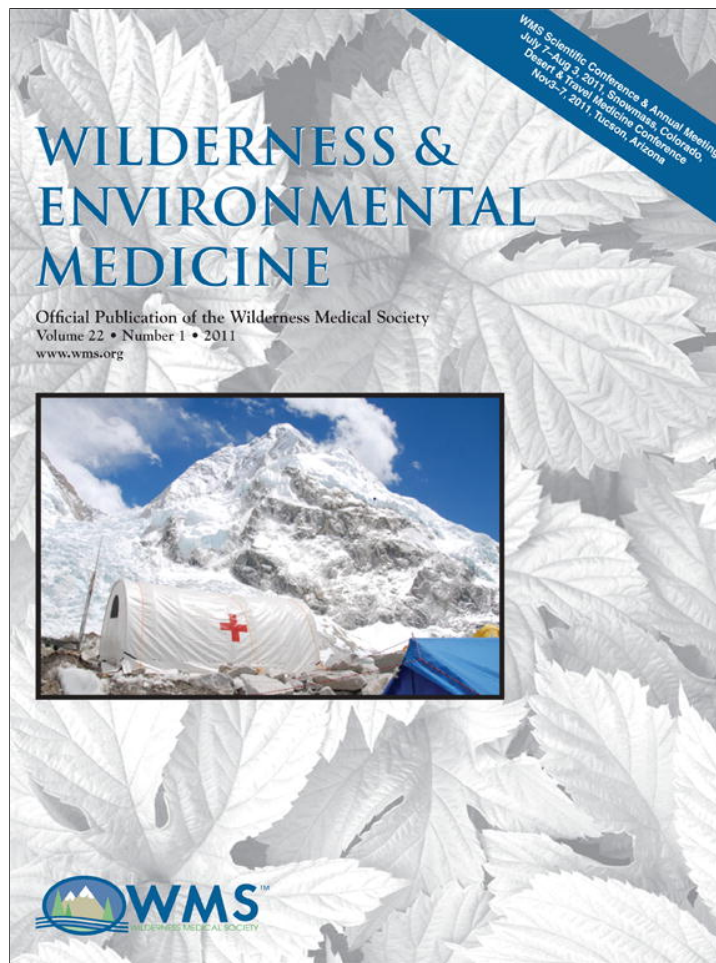


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CASE REPORT

A Fatal Attack on a Child by a Black Caiman (*Melanosuchus niger*)

Vidal Haddad Jr, MD, PhD; Waldicléa Cardoso Fonseca, MD

From the Botucatu School of Medicine–UNESP, Univ Estadual Paulista and Postgraduation Program in Zoology, Biosciences Institute, Univ Estadual Paulista, São Paulo State, Brazil (Dr Haddad); Private Practice, Rondonia State, Brazil (Dr Fonseca).

We describe a fatal attack by a black caiman (*Melanosuchus niger*) on an 11-year-old child with comments on the reptile's aggression mechanisms and the conditions under which this kind of incident takes place in the Amazon region.

Key words: Alligatoridae, caiman, wild animal attacks

Introduction

Brazilian fauna has 6 species of caimans (family Alligatoridae) and no species of crocodiles (family Crocodylidae).¹ The broad-snouted caiman or jacaré-de-papo-amarelo (*Caiman latirostris*) is found in the Southeast and Southern regions and all coastal areas of Brazil and can reach up to 10 ft (3.5 m) in length; the Pantanal or Yacare caiman (*Caiman yacare*) is very common in the Midwest region only, and measures up to 3 m in length. The Spectacled Caiman or jacaretinga (*Caiman crocodilus*) is a species of the Amazon and Midwest regions that measures up to 3.0 m. In contrast, the small Cuvier's dwarf caiman (*Paleosuchus palpebrosus*) and the smooth-fronted caiman (*Paleosuchus trigonatus*), do not exceed 2 m in length. The black caiman or jacaré-açu (*Melanosuchus niger*) is a much larger animal, and there are specimens that can reach more than 6 m in length which are found in the Amazon and Araguaia/Tocantins Rivers Basins.¹ Caimans and other crocodylians prey on fish and other aquatic animals, but on occasion may take larger animals from river margins.

There are a great number of reports of fatal and nonfatal attacks on humans caused by crocodiles throughout world,^{2,3} but reports of attacks by Alligatoridae are less common. Most have been reported in the US, and are caused by the American alligator, *Alligator mississippiensis*.⁴⁻⁶

Corresponding author: Vidal Haddad Jr., MD, PhD, Departamento de Dermatologia, Faculdade de Medicina de Botucatu, Univ Estadual Paulista, Caixa Postal 557, 18618-000, Botucatu, São Paulo, Brazil (e-mail: haddadjr@fmb.unesp.br).

The spectacled and especially the black caiman are associated with most predatory attacks on humans seen in South America.^{1,4} The others rarely cause serious accidents and sporadic attacks are mainly on fishermen and generally occur in situations in which the animals were provoked or defending their nests.

Currently, the black caiman is not included on endangered species lists, but there is a demand for its meat and leather. It has a reputation as a man-eater among river bank residents. Reports of accidents are rare,^{1,4,5} but black caimans can attack humans under unusual situations and are large enough to feed on 40 kg capybaras. Small humans can therefore easily become prey. The black caiman can cause death or serious injury through physical trauma, blood loss, and severe secondary infections (especially in attacks by large-scale specimens).^{6,7} In the Amazon region, attacks are mainly on fishermen, when they dive to retrieve nets.¹

Attacks by caimans are not common. There are numerous reports of caimans inflicting human injuries, including fatalities, in the Amazon region.⁸ However, there are no quantitative data to reinforce the idea that attacks may be common in high density areas of caimans and humans.

Case summary

Seven children were bathing on a Sunday (February 7, 2010) using an area flooded by seasonal water in the First Igarapé (igarapés are small channels bound to large rivers that crisscross the woods and are major transport routes for locals). The site is located on the riverside at



Figure 1. The black caiman *Melanosuchus niger* (measuring 13 ft or 4.21 m) responsible for the attack. The first image shows the reptile after removal from the stream. The second image (below) shows the animal at Environmental Police headquarters. Photo: Guajará-Mirim Environmental Police Group.

the confluence of the Mamoré and Novo Pacaás Rivers, in Guajará-Mirim, a town in Rondônia State in the Brazilian Amazon. Around noon, 1 of the children was attacked by a black caiman, previously unobserved. The victim was an 11-year-old girl who lived in the neighborhood. A fisherman who was nearby said that he “saw the reptile with a girl trapped in the mouth but that soon disappeared.” Police, firefighters, and members of the community tried to recover the victim’s body during the afternoon and part of the night. At approximately 8 PM, noting underwater movements and bubbles on the surface of the river, a local resident spotted the animal about 100 m from where the attack took place (Second Igarapé of the Triângulo).

At the first shot of a firearm, the animal emerged with the victim still trapped in its mouth and was killed by 7 shots from a 12 caliber rifle. The reptile was identified as a black caiman measuring 13 ft (4 m 21 cm) and, weighing around 350 kg. The animal was then lead to the town of Guajará-Mirim by the Environmental Police Command (Figure 1). The child’s body was sent to the Morgue of the Regional Hospital.

Certification of death and the child’s initial autopsy performed by one of the authors (WCF), revealed different cutting/perforating wounds of about 2–3 cm in length, more evident in the thorax, lower limbs, and buttocks. There were no large lacerations or tearing of extremities. The victim sustained a fracture of the right femur with teeth marks from the animal on the thighs (Figures 2 and 3). The lungs were filled with water, and cause of death was identified as drowning.

Discussion

Injuries caused by caimans have a similar clinical profile to those of sharks due to the potentially large wounds, blood loss, and secondary bacterial infections. The method of attack is different as alligators and other crocodylians come close to the victim using their camouflage ability, then attack suddenly and swallow small prey whole. If the victim is a large animal, it is dragged into deep waters and drowned. When death occurs, the reptile holds the victim in the river bottom or the victim remains stuck in the mouth for some time (still submerged), waiting for the decomposition and softening of tissues. The reptile then disarticulates it with a rotary movement of the body, swallowing body segments whole as its teeth are not adapted for chewing.

The victim should be treated as soon as possible, with copious irrigation of wounds, immediate surgical debridement, containment of bleeding, fluid resuscitation, treatment of possible fractures (the jaws are closed by powerful adductor muscles), and broad-spectrum antibiotic therapy.^{1,6,7}

A black caiman is a fearsome predator; it can reach 6 m in length, weigh half a ton, and is extremely fast in



Figure 2. The specimen’s maxilla and mandible, showing its large powerful teeth adapted for gripping, not mastication. Photo: Guajará-Mirim Environmental Police Group.



Figure 3. The victim's body at autopsy showed bruises and cuts in the thighs that follow the distribution of the reptile's teeth. This initial attack was probably in this area; the victim also suffered a fracture of the femur. Photo: Environmental Police of Guajará-Mirim town.

the aquatic environment. An attack by one of these animals is almost always fatal, especially when it is an adult specimen (average length of 4 m). Its 70–80 teeth, suitable for clamping down on its prey, add to the force of the jaw and prevent any reaction from the victim.

The accident in question partly illustrates the predatory tactics of crocodylians. The attack occurred without anyone present aware of the caiman's presence, illustrating the silent form of approximation. With the victim trapped in its mouth, the animal submerged to drown her and remained under the water for hours, presumably allowing early decomposition to facilitate the later disarticulation of the victim.

Probably due to the animal's death before devouring its victim, the autopsy revealed that the child's body only had teeth marks from the animal and a fracture of the femur in the bite line, possibly caused by the initial attack. There were no large lacerations or torn limbs, common in corpses eaten by crocodylians.

This case stimulates reflection on the uncommon incidence of caiman attacks. Throughout the Amazon region, the seasonal flooding period increases the risk of snake bite accidents and attacks by caimans due to the proximity to human habitats.^{8,9} The use of igarapés and other flooded streams as recreation areas carries risks,

especially to children. Consideration should be given to banning human access to these sites, especially in highly populated areas, as this may be an effective preventive measure against the type of tragic accident reported in this communication.

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