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An unpleasant encounter: non-fatal attack by the broad-snouted caiman, *Caiman latirostris*, on a human in Minas Gerais, Brazil

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Resumo

Interações entre humanos e crocodilianos fornecem informações importantes para orientar estratégias de conservação e de segurança pública. Embora ataques a humanos sejam raros, a maioria é interpretada como uma resposta defensiva. Relatamos um ataque não fatal de um *Caiman latirostris* em Jaboticatubas, Minas Gerais, Brasil. Durante um treinamento de natação, a vítima foi atacada sem que o animal fosse detectado visualmente. O evento envolveu uma mordida na região do tronco, seguida de movimentos laterais da cabeça e de contato com os membros posteriores e a cauda. Após a reação defensiva da vítima, o animal a soltou e a seguiu por aproximadamente 50 metros na superfície. Lesões incluíram perfurações e lacerações torácicas, escoriações nos membros inferiores e uma ferida axilar. O padrão das marcas sugere um jacaré com cerca de 150 cm. As características do incidente são consistentes com uma hipótese de comportamento defensivo, possivelmente relacionada à defesa territorial. Registros assim são relevantes para compreender os contextos dessas interações e orientar estratégias de manejo e de prevenção.

Palavras-chave

Comportamento de defesa, conflito humano-vida selvagem, etnozoologia.

ABSTRACT

Human–crocodilian interactions provide important information to guide conservation and public safety strategies. Although attacks on humans are rare, most are interpreted as defensive responses. We report a non-fatal attack by *Caiman latirostris* in Jaboticatubas, Minas Gerais, Brasil. During a swimming training, the victim was attacked without prior visual detection of the animal. The event involved one bite to the trunk, followed by lateral head movements and contact with hind limbs and tail. After the victim's defensive reaction, the animal released her, following her for approximately 50 m at the surface. Injuries included thoracic punctures and lacerations, abrasions on the lower limbs, and an axillary wound. The pattern of the marks suggests an individual approximately 150 cm. The characteristics of the incident are consistent with a defensive behavior hypothesis, possibly related to territorial defense. Records like this are relevant to understanding the contexts of these interactions and guiding management and prevention strategies.

Keywords

Crocodilians, defensive behavior, ethnozoology, human-wildlife conflict.

Documenting human–crocodilian interactions is important for understanding the circumstances under which such conflicts occur. Although attacks on humans are relatively uncommon, most recorded incidents are associated with defensive responses or limited perception of the animal, rather than predatory behavior (Caldicott et al., 2005). These records also provide essential evidence to support management and conservation strategies (Pooley et al., 2021). Ultimately, they help establish conditions for long-term coexistence between humans and crocodilians (Pooley et al., 2021, Cavalier et al., 2021). Thus, properly describing non-fatal incidents can provide valuable information for both species conservation and public safety (Mascarenhas-Junior et al., 2021).

The broad-snouted caiman *(Caiman latirostris)* is characterized by a short, relatively wide snout and a generalist diet that includes invertebrates, fish, reptiles, birds, and small to medium-sized mammals (Diefenbach, 1988; Borteiro et al., 2009). Adults typically reach 1.5–2.0 m in total length, and the species is widely distributed across South America, with a substantial portion of its range occurring in Brazil (Bassetti et al., 2023). Currently, the species is classified as Least Concern by the IUCN - International Union for Conservation of Nature (Siroksi et al., 2020, Bassetti et al., 2023).

Caiman latirostris exhibits marked ecological plasticity, occupying a wide range of aquatic habitats, including wetlands, marginal lagoons, and slow-flowing rivers, as well as human-modified environments such as reservoirs and disturbed aquatic habitats (Bassetti et al., 2023; Yves et al., 2023). The species is frequently recorded in regions with high human population density, where habitat loss and landscape fragmentation increase the likelihood of encounters with people (Marques et al., 2016; Siroski et al., 2020; Mascarenhas-Junior et al., 2021). Despite this spatial overlap, *C. latirostris* is generally described as non-aggressive and tends to avoid human contact. Most reported incidents involving humans are interpreted as defensive rather than predatory (Verdade, 1999; Borteiro et al., 2022). Finally, attacks may also occur under other

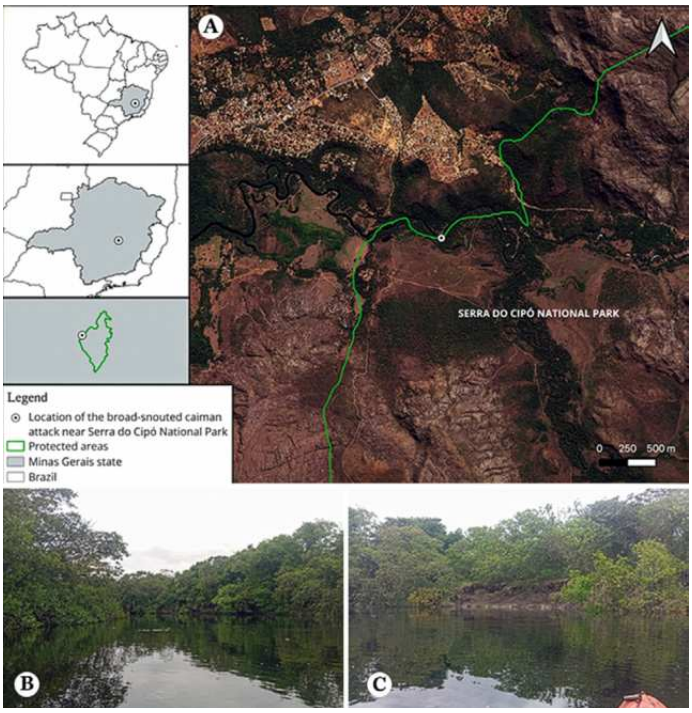

Figure 1. (A) Georeferenced location of the incident along the Cipó River, near Serra do Cipó National Park, Minas Gerais, Brazil (Image from Google Earth). (B–C) Photographs of the attack site, showing the river and riparian vegetation.

circumstances, including protection of nests or offspring, territorial defense, and, less frequently, predatory behavior with larger species.

Here, we describe a non-fatal attack by *C. latirostris* on a human in Jaboticatubas, Minas Gerais, Brazil, and discuss its implications within the context of human–crocodilian interactions.

The incident occurred in the municipality of Jaboticatubas, Minas Gerais, Brazil, in the surroundings of the Serra do Cipó National Park (Figure 1; 19°20′45.00″ S, 43°36′45.00″ W). Within the Cerrado biome, which is characterized by a mosaic of savanna and forest, associated with watercourses (Ribeiro & Walter, 2008), the exact site consists of a sinuous slow-flowing part of the Cipó river, approximately 20 m wide and 5 m deep. The water is dark, typical of environments with high levels of dissolved organic matter, though it was low in turbidity at the time of the event. The shore features dense riparian vegetation, including a gallery forest that forms partially shaded sections along the river channel. Marginal banks and predominantly



Figure 2. Injuries caused by the caiman to the victim (GVBD) during the attack: wound in the axillary region and lesions on the right shoulder and scapular area.

arboreal vegetation are present along the river shoreline; the substrate is mostly sandy.

The event occurred on 29 January 2026 at approximately 3:30 p.m., during a swimming training session conducted by one of the authors (GVBD). On the occasion, GVBD was swimming along the channel with no prior interaction or visual detection of the animal. Later, upon rounding a river curve, he noticed intense surface agitation, followed immediately by a sudden bite on the dorsal region of his body, near the right shoulder. The attack consisted of a single bite, primarily affecting the dorsal, scapular, and axillary regions, with partial extension to the lateral thoracic region. During the bite, the animal performed rapid lateral head movements, described by the observer (GVBD) as "shaking," while the hind limbs and tail came into contact with the lower limbs of the victim. The animal maintained its bite for a few seconds and was interrupted by the victim's defensive movements, mainly with his elbows. Based on the observed characteristics and the species' distribution, the animal was identified as a broad-snouted caiman (*C. latirostris*). After release, the victim swam toward the river bank and was followed by the caiman for approximately 50 m.

The swimmer's injuries included puncture wounds and superficial lacerations in the dorsal and lateral trunk regions (Figure 2), as well as a deeper penetrating wound in the right axillary region that required medical suturing of 29 stitches. There were also abrasions on the lower limbs of the victim from contact with the animal's claws during the attack. Two days after the event, wound healing and scar formation revealed a well-defined semicircular mark corresponding to the lower jaw, approximately 10 cm wide. Based on morphometrics of *C. latirostris*, this suggests a subadult individual with an estimated total length of 140–160 cm.

DISCUSSION

Crocodilians have sophisticated adaptations to their predatory lifestyles, and their role as apex predators has also generated great public interest (Pooley, 2024). The Worldwide Crocodilian Attacks Database has compiled over 8,500 reports of attacks (fatal and non-fatal) by wild crocodilians on humans until 2024 (CrocAttack, 2026). Although Brazil has a high diversity of crocodilians (six species), there are few records of crocodilian attacks, which may be due to the absence of formal records in the literature (Haddad & Fonseca, 2011).

In Brazil between 2000 and 2022, 86 incidents involving crocodilians were recorded, of which 18 resulted in death. Most involved people engaged in fishing or on boats, with the black caiman (*Melanosuchus niger*) being the most frequently involved species (Bitencourt & Maschio, 2023). Records of attacks on humans by species of the genus *Caiman* are scarce (e.g., Campos Neto et al., 2013; Tarle & Haddad, 2022; Pontes et al., 2025) with none in the state of Minas Gerais.

The observed patterns are consistent with a defensive response associated with defensive behavior or food resource protection. Prior to the attack, the victim reported detecting a rotten smell in the water, suggesting the possible presence of a nearby carcass upon which the caiman was feeding. Furthermore, the victim reported that after releasing the bite, the caiman did not follow when the victim submerged, but resumed the pursuit when the victim returned to the surface. Both scenarios are consistent with our hypothesis of food resource defensive behavior: the caiman is protecting its resource and trying to drive away potential danger. However, this interpretation should be treated cautiously because no carcass was seen.

Crocodilian bites frequently lead to serious secondary infections, due to their powerful jaws, sharp teeth, and oral microbiota (Campos Neto et al., 2013). In the present incident, the victim received prompt medical treatment, and no infections or further complications were observed following the attack.

Isolated attacks can shape public perception of crocodilians, and increase the risk of persecution. Clear communication from conservation unit managers and public agencies is crucial. In these situations, area warnings and guidance for tourists and local people are recommended. Databases on human interactions are also essential for managing individuals of this species.

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DECLARATION OF EQUITY, DIVERSITY, AND INCLUSION (EDI): We formally declare that the present study was conducted with consideration of diversity, equity, and inclusion.

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