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PREDAÇÃO DE *PSOMOPHIS GENIMACULATUS* (BOETTGER, 1885) (SQUAMATA - COLUBRIDAE) POR *GUIRA GUIRA* (GMELIN, 1788) (CUCULIFORMES - CUCULIDAE) NO PANTANAL SUL MATOGROSSENSE

PREDATION OF *PSOMOPHIS GENIMACULATUS* (BOETTGER, 1885) (SQUAMATA – COLUBRIDAE) BY *GUIRA GUIRA* (GMELIN, 1788) (CUCULIFORMES – CUCULIDAE) IN THE SOUTHERN PANTANAL, BRAZIL

DEPREDACIÓN DE *PSOMOPHIS GENIMACULATUS* (BOETTGER, 1885) (SQUAMATA – COLUBRIDAE) POR *GUIRA GUIRA* (GMELIN, 1788) (CUCULIFORMES – CUCULIDAE) EN EL PANTANAL SUR-MATOGROSENSE, BRASIL

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Resumo

Guira guira (Gmelin, 1788) é uma ave amplamente distribuída na América do Sul, caracterizada por hábitos diurnos e dieta generalista predominantemente carnívora, composta principalmente por artrópodes, embora o consumo de pequenos vertebrados também seja registrado de forma ocasional. Neste estudo, documentamos o primeiro registro de predação de *Guira guira* sobre um juvenil de *Psomophis genimaculatus* no Pantanal Sul-mato-grossense. O evento foi observado em 3 de novembro de 2025, no município de Aquidauana, Mato Grosso do Sul, envolvendo um indivíduo adulto capturando e ingerindo completamente a serpente, mesmo diante de perturbações antrópicas e condições ambientais adversas. Durante a observação, um segundo indivíduo apresentou comportamento típico de solicitação alimentar, sugerindo contexto de cuidado parental. O registro evidencia a capacidade da espécie em manipular e consumir presas vertebradas relativamente grandes, reforçando seu caráter oportunista, generalista e sua elevada plasticidade comportamental. Além disso, a predação de uma serpente juvenil, potencialmente rica em reservas energéticas, pode representar uma estratégia eficiente de maximização do aporte energético durante períodos de maior demanda metabólica. Este estudo amplia o conhecimento sobre a ecologia trófica de *G. guira* e contribui para a compreensão das interações predador-presa no Pantanal, destacando o papel da espécie como predador potencialmente relevante nas comunidades herpetofaunísticas locais.

PALAVRAS-CHAVE: Predação; Ecologia trófica; Serpentes, Pantanal

Abstract

Guira guira (Gmelin, 1788) is a bird widely distributed throughout South America, characterized by

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diurnal habits and a predominantly carnivorous generalist diet, mainly composed of arthropods, although the consumption of small vertebrates has also been occasionally reported. In this study, we document the first record of predation by *Guira guira* on a juvenile *Psomophis genimaculatus* in the southern Pantanal. The event was observed on November 3, 2025, in the municipality of Aquidauana, Mato Grosso do Sul, Brazil, and involved an adult individual capturing and completely ingesting the snake, even in the presence of anthropogenic disturbance and adverse environmental conditions. During the observation, a second individual exhibited typical food-begging behavior, suggesting a parental care context. This record highlights the species' ability to manipulate and consume relatively large vertebrate prey, reinforcing its opportunistic and generalist nature, as well as its high behavioral plasticity. Furthermore, the predation of a juvenile snake, potentially rich in energetic reserves, may represent an efficient strategy to maximize energy intake during periods of increased metabolic demand. This study expands current knowledge of the trophic ecology of *G. guira* and contributes to the understanding of predator–prey interactions in the Pantanal, emphasizing the species' role as a potentially important predator within local herpetofaunal communities.

KEYWORDS: Predation; Trophic ecology; Snakes; Pantanal

Resumen

Guira guira (Gmelin, 1788) es un ave ampliamente distribuida en América del Sur, caracterizada por hábitos diurnos y una dieta generalista predominantemente carnívora, compuesta principalmente por artrópodos, aunque el consumo de pequeños vertebrados también ha sido registrado de forma ocasional. En este estudio se documenta el primer registro de depredación de *Guira guira* sobre un juvenil de *Psomophis genimaculatus* en el Pantanal Sur-matogrosense. El evento fue observado el 3 de noviembre de 2025, en el municipio de Aquidauana, Mato Grosso do Sul, Brasil, e involucró a un individuo adulto que capturó e ingirió completamente la serpiente, incluso bajo perturbación antrópica y condiciones ambientales adversas. Durante la observación, un segundo individuo presentó un comportamiento típico de solicitud de alimento, lo que sugiere un contexto de cuidado parental. Este registro evidencia la capacidad de la especie para manipular y consumir presas vertebradas relativamente grandes, reforzando su carácter oportunista y generalista, así como su elevada plasticidad comportamental. Además, la depredación de una serpiente juvenil, potencialmente rica en reservas energéticas, puede representar una estrategia eficiente para maximizar el aporte energético durante períodos de mayor demanda metabólica. Este estudio amplía el conocimiento sobre la ecología trófica de *G. guira* y contribuye a la comprensión de las interacciones depredador–presa en el Pantanal, destacando el papel de la especie como un depredador potencialmente relevante en las comunidades herpetofaunísticas locales.

PALABRAS-CLAVE: Depredación; Ecología trófica; Serpientes; Pantanal

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1. Introduction

Guira guira (Gmelin, 1788), commonly known as the Guira Cuckoo, belongs to the subfamily Crotophaginae and is widely distributed throughout South America, with confirmed records in Brazil, Bolivia, Paraguay, Uruguay, and Argentina (Sick, 1997). It is a predominantly diurnal species, whose activity and foraging period generally extends from the early morning to late afternoon, approximately between 07:00 and 18:00 h (Diño Marino, 1981).

From a trophic perspective, *G. guira* is characterized as a generalist species with an essentially carnivorous diet. Classical studies based on stomach content analyses indicate that its diet consists mainly of arthropods, particularly insects of the order Orthoptera, which frequently represent the largest proportion of consumed items (Schubart et al., 1965; Martins & Donatelli, 2001). However, records obtained through both dietary analyses and occasional field observations demonstrate that the species may also prey upon small vertebrates, including birds, reptiles, and amphibians (Schubart et al., 1965; Repennig et al., 2009).

Although invertebrates consistently constitute the main fraction of the known diet of the species, there are sporadic reports of the ingestion of larger vertebrates. Such records are relatively rare and, in many cases, lack precise taxonomic identification of the prey, which limits more detailed inferences regarding the importance of these items in the diet and the ecological role of the species as a vertebrate predator (Repennig et al., 2009).

2. Materials and Methods

The incident occurred on November 3, 2025, on a rural road in the municipality of Aquidauana, Mato Grosso do Sul. The observation lasted approximately five minutes from the moment the prey was noticed until it was completely ingested. The location was surrounded by native and exotic vegetation (pasture) and a large wetland area.

3. Results and Discussion

We recorded a predation event involving an adult individual of *Guira guira* capturing a juvenile *Psomophis genimaculatus* (Boettger, 1885) while the bird was perched on a wire fence. At the moment the bird was observed holding the snake

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in its bill, a second individual of *G. guira* immediately approached, displaying typical food-begging behavior characterized by partially spread wings and a widely opened bill

Initially, we assumed that the snake would be used to feed the fledgling; however, the event was interrupted by the approach of a truck traveling along the adjacent road in the opposite direction. The disturbance caused by the vehicle prompted the bird to take flight, carrying the snake in its bill to a fence located on the opposite side of the road. Upon landing, the snake managed to escape from the bird's grasp and fell into the vegetation on the ground. Immediately thereafter, the *G. guira* individual descended to the ground, recaptured the snake, and returned to perch on the wire fence.

During this process, the bird showed difficulty maintaining balance on the wire due to wind action. Nevertheless, the individual was able to ingest the snake entirely in a single swallowing event (Fig. 1).



Figura 1. *Guira guira* capturing a *Psomophis genimaculatus* in the Pantanal wetlands of Aquidauana. Photo: Couto, R.M.P.

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This behavior demonstrates not only the ability to manipulate and ingest relatively large prey, but also the predator's persistence in the face of environmental disturbances. The consumption of vertebrates by *Guira guira* is well documented in the literature, particularly involving anurans (Couto et al., 2025a), lizards (Smaniotto et al., 2017), amphisbaenians (Smaniotto et al., 2017), and snakes (Soave et al., 2008; Abegg et al., 2015).

These records reinforce the opportunistic and generalist nature of the species, especially during periods of increased energetic demand. It is widely recognized that birds engaged in parental care tend to select prey with higher energetic value for feeding their offspring, such as individuals in reproductive condition, which have greater caloric reserves, or juvenile prey, which often exhibit a high proportion of energetic reserves relative to body mass (Couto et al., 2025b).

In this context, the predation of a juvenile *Psomophis genimaculatus* may represent an efficient strategy for maximizing energy intake, thereby contributing to the reproductive success of *G. guira*. The present study provides the first documented record of predation by *Guira guira* on *Psomophis genimaculatus* in the southern Pantanal, expanding current knowledge of the trophic ecology of this bird species.

This novel record further reinforces the opportunistic and generalist character of *G. guira*, highlighting its ability to exploit vertebrate prey from different taxonomic groups, including snakes. Moreover, the observed event contributes to a better understanding of predator–prey interactions in the Pantanal region, emphasizing the role of *G. guira* as a potentially important predator in the dynamics of local herpetofaunal communities.

4. Conclusion

The present study reports the first documented record of predation by *Guira guira* on a juvenile *Psomophis genimaculatus* in the southern Pantanal, expanding current knowledge of the species' trophic ecology and reinforcing its opportunistic and generalist nature. The event demonstrates a high degree of behavioral plasticity, evidenced by the ability to capture and ingest vertebrate prey even under anthropogenic disturbance. This record contributes to a better understanding of

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predator–prey interactions in the region and highlights the potential importance of *G. guira* in the dynamics of local herpetofaunal communities, emphasizing the need for further investigations into the frequency and ecological relevance of this type of predation.

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