

## New ecoregional records of *Xenodon pulcher* (Jan, 1863) from the Cerrado in Paraguay

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The genus *Xenodon* Boie, 1827, belonging to the tribe Xenodontini, comprises 12 species distributed mainly across Central and South America (Scrocchi and Cruz, 1993; Giraudo and Scrocchi, 2002; Nenda and Cacivio, 2007; Cacciali et al., 2016; Uetz et al., 2025). Species of *Xenodon* occupy a variety of habitats, including forests, savannahs, and open grasslands (Cacciali et al., 2016), and some are known to mimic venomous snakes.

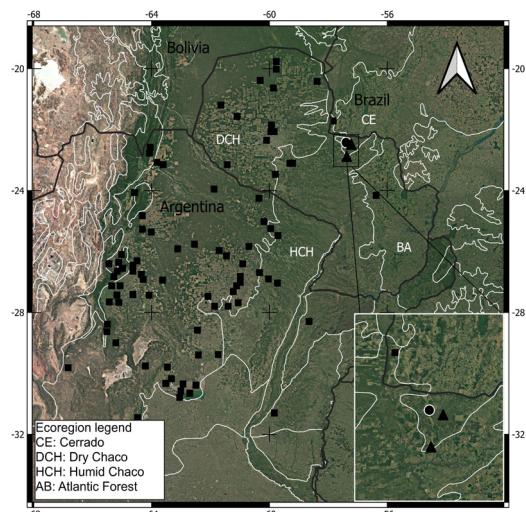
In Paraguay, the genus *Xenodon* includes *X. dorbignyi*, *X. histricus*, *X. merremi*, *X. nattereri*, *X. neuwiedii* and *X. pulcher*, species that occupy distinct ecological niches (Cacciali et al., 2016, 2023; Martínez et al., 2020).

The Cerrado is a recognised ecoregion notable for its high biodiversity and endemism, but it is experiencing rapid habitat loss, leading to its classification as a biodiversity hotspot (Myers et al., 2000). Nevertheless, herpetological studies in the Paraguayan Cerrado remain limited, resulting in significant knowledge gaps regarding species distributions and conservation needs.

*Xenodon pulcher* (Jan, 1863) had previously been recorded only from the Dry Chaco and Humid Chaco ecoregions of Paraguay, characterised by alternating wet and dry seasons and threatened by high rates

of deforestation (Cartes, 2003; Cacciali et al., 201; Nogueira et al., 2019). Here we provide the first report of *X. pulcher* from the Cerrado ecoregion in Paraguay.

Several adult specimens of *Xenodon pulcher* were recorded within the Cerrado ecoregion near Parque Nacional Paso Bravo, district of San Carlos del Apa, in the district of Concepción, Paraguay (Fig. 1). Two specimens were collected following standardised protocols and deposited in the herpetological collections of the Museo Nacional de Historia Natural del Paraguay (MNHNP) and the Instituto de Investigación Biológica del Paraguay (IIBP). Specimen details: MHN 13003, collected on 25 October 2024 by Thomas Goossen (22.3419°S, 57.3682°W, 164 m elevation) (Figs. 2, 3); and IIBP 6524: collected on 10 April 2025 by Matías



**Figure 1.** Distribution of *Xenodon pulcher*. Symbols indicate known occurrence locations (black squares), and the new records reported on here: MHN 13.003 and IIBP 6.524 black triangles, MHN 13.003 black dot. Abbreviations indicate different ecoregions; CE, Cerrado; DCH, Dry Chaco; HCH, Humid Chaco; AB, Atlantic Forest.

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**Figure 2.** Dorsal, ventral, and lateral total views of *Xenodon pulcher* (MNHNP 13003). Photos by Thomas Goossen.

Silvera (-22.30°S, -57.45°W). A third additional individual was found on 9 November 2024 (-22.41°S, -57.42°W). This animal was only photographed, voucherized photographs: MNHNP-F60, MNHNP-F61, MNHNP-F62, MNHNP-F63.

At both global and local scales, *X. pulcher* is currently classified as Least Concern (Scrocchi, 2017; Martinez et al., 2020). However, its confirmed occurrence in only one protected area within the Paraguayan Chaco, and now in the Cerrado, highlights the need for a reassessment of its conservation status, distributional limits, and potential threats. These findings underscore the importance of monitoring population trends in the face of increasing habitat fragmentation, especially within biodiversity hotspots such as the Cerrado (Myers et al., 2000).

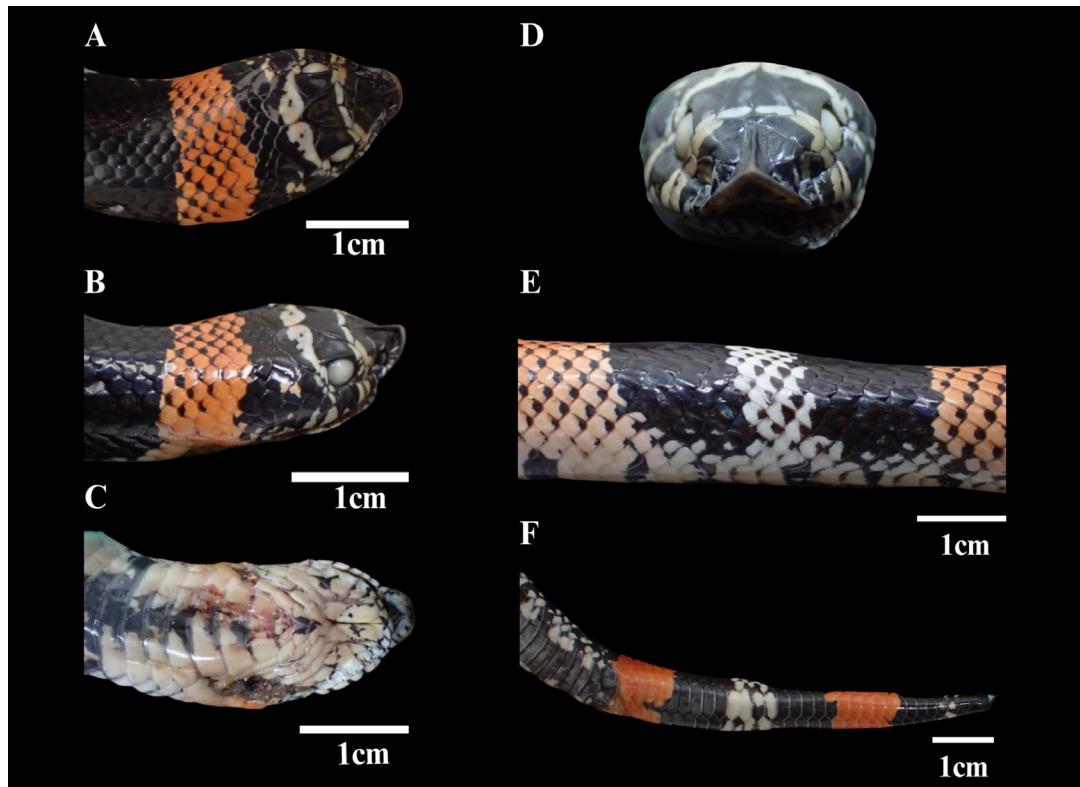
The record of *X. pulcher* in this ecoregion represents the first confirmed occurrence in the Paraguayan Cerrado, extending its known distribution by approximately 138 km from the nearest record in Brazil (Cabral et al., 2015; Nogueira et al., 2019). These findings expand the understanding of the species' geographical range and adaptability. The ongoing loss of habitat in the Paraguayan Cerrado (Hofmann et al., 2021)

further highlights the necessity of conducting more extensive herpetological surveys to assess the species' conservation status and understand its population dynamics in a rapidly changing landscape (Rodrigues et al., 2022). Documenting the presence of this species near Paso Bravo National Park provides valuable information for guiding protected-area management and reinforces the relevance of our findings for public policies and regional conservation strategies.

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**Figure 3.** Dorsal (A), lateral (B), ventral (C), and rostral views of the head (D), lateral view of the body (E) and subcaudal view (F) of *Xenodon pulcher* (MNHNP 13003). Photos by Thomas Goossen.

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