



## NOTA

### NEW FINDINGS AND COMPLETE RECORDING FOR THREE TURTLES OF CONSERVATION INTEREST IN THE BOLIVIAN CHACO

Mario R. Cabrera<sup>1\*</sup>  & Efraín M. Peñaranda Barrios<sup>2</sup> 

<sup>1</sup> Museo de Zoología Universidad Nacional de Córdoba, Facultad de Ciencias Exactas, Físicas y Naturales, and Instituto de Diversidad y Ecología Animal (IDEA) CONICET/UNC, Vélez Sarsfield 299 (5000) Córdoba, Argentina.

<sup>2</sup> Geología & Recursos Naturales - GeoAmbiente Ltda. BioData (<https://biodata.bio/>), Santa Cruz de la Sierra, Bolivia.

\*Corresponding author: [m.cabrera@unc.edu.ar](mailto:m.cabrera@unc.edu.ar)

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## ABSTRACT

All records gathered since 1997 for the turtles *Acanthochelys pallidipectoris* (8 localities), *Chelonoidis chilensis* (6) and *Kinosternon s. scorpioides* (14), in the Chaco ecoregion of Tarija Department, Bolivia, are presented georeferenced and mapped. These data contribute to precise and expand the geographic range of these three taxa in a region affected by anthropogenic alteration sustained over time.

**Key words:** Testudines, Reptilia, Gran Chaco, South America.

## RESUMEN

**Registros totales y novedades en el chaco boliviano para tres tortugas de interés conservacionista.** Se presenta la totalidad de registros reunidos desde 1997 para las tortugas *Acanthochelys pallidipectoris* (8 localidades), *Chelonoidis chilensis* (6) y *Kinosternon s. scorpioides* (14), en la ecorregión del Chaco en el Departamento Tarija, Bolivia, georreferenciados y cartografiados. Estos datos contribuyen a precisar y ampliar la distribución de estos tres taxa en una región afectada por alteración antrópica sostenida en el tiempo.

**Palabras clave:** Testudines, Reptilia, Gran Chaco, Sudamérica.

More than 50 per cent of extant turtle species in the world are in one of the main IUCN threat categories:

Critically Endangered (CR), Endangered (EN), or Vulnerable (VU) (Rhodin et al., 2021) due to a combination of factors that vary in importance depending on the species in question, its population, or geographic range of distribution. In southern South America the main pressure is the anthropogenic alteration of natural environments for economic purposes, e.g., substitution or destruction of vegetation and modification of water courses sustained over time (Cabrera, 2022) and, in lesser degree, their use as food or for pet commerce.

The objective of this work is to publish all the records collected to date for the chelonian species *Acanthochelys pallidipectoris* (Freiberg, 1945) (Chelidae) (Fig. 1), *Chelonoidis chilensis* (Gray, 1870) (Testudinidae) (Fig. 2), and *Kinosternon s. scorpioides* (Linné, 1766) (Kinosternidae) (Fig. 3) in the Chaco Ecoregion of the Tarija Department, southern Bolivia. This biome extends over almost 13,800 square kilometers of the departmental surface, representing 11 per cent of the total territory with Chaco physiognomy of this country.

The conservation interest for these turtles lies in the threat categories in which each one is put: *A. pallidipectoris* is categorized as Endangered (EN) by Vinke and Vinke (2022) and Near Threatened (NT) in the Vertebrates Red Book of Bolivia (Cortez, 2009), although it would be protected by its presence in the National Park and Natural Area of Integrated Management Kaa-Iya from the Gran Chaco (in Santa Cruz Department) (Aliaga-Rossel et al., 2020). *Chelonoidis chilensis* is categorized as Vulnerable (VU) by the IUCN (2024), as well as in the





**Fig. 1.** *Acanthochelys pallidipectoris* (Well EDD 10; Municipality Villa Montes; Gran Chaco Province; Tarija Department, Bolivia). Photo by E. Peñaranda Barrios.



**Fig. 2.** *Chelonoidis chilensis* (LVT Field; Municipality Villa Montes; Gran Chaco Province; Tarija Department, Bolivia). Photo by E. Peñaranda Barrios.





**Fig. 3.** *Kinosternon s. scorpioides* (Well EDD 9; Municipality Villa Montes; Gran Chaco Province; Tarija Department, Bolivia). Photo by E. Peñaranda Barrios.

**Table 1.** Georeferencing of each of the turtle records gathered for the Tarija Department, Gran Chaco Province, Bolivia. The altitude is indicated in meters above sea level (masl) as well as the date of photographing or capture in each instance.

Taxon	Municipality	Locality	Latitude	Longitude	masl	Date	Reference
<i>Acanthochelys pallidipectoris</i>	Villa Montes	Taiguati	21°9'35.21"S	63°21'27.57"W	461	2 feb 2012	Peñaranda Barrios (2012)
<i>A. pallidipectoris</i>	Villa Montes	Well LVT6	21°21'10.52"S	63°18'36.98"W	351	27 oct 1998	Peñaranda Barrios (2012)
<i>A. pallidipectoris</i>	Villa Montes	Well EDD10	21°25'39.26"S	63°20'14.02"W	375	12 feb 2011	Peñaranda Barrios (2012)
<i>A. pallidipectoris</i>	Villa Montes	Road to Field EDD	21°31'19.66"S	62°32'52.66"W	290	25 nov 2005	Peñaranda Barrios (2012)
<i>A. pallidipectoris</i>	Villa Montes	Corbalán	21°40'14.8"S	62°27'57.3"W	280	11 dec 2004	Gonzales et al. (2006)
<i>A. pallidipectoris</i>	Yacuiba	AlgarroBILLA	21°55'57.54"S	63°15'37.22"W	405	13 oct 1997	Peñaranda Barrios (2012)
<i>A. pallidipectoris</i>	Villa Montes	EDD Field	21°26'10.72"S	63°19'56.44"W	376	10 dec 2015	Peñaranda Barrios (2012)
<i>A. pallidipectoris</i>	Villa Montes	LVT Field-Lagoon San Juan	21°19'32.15"S	63°17'49.50"W	347	1 sep 2007	Peñaranda Barrios (2012)
<i>Kinosternon s. scorpioides</i>	Villa Montes	Taiguati	21° 8'31.12"S	63°18'31.77"W	438	9 mar 2012	Peñaranda Barrios (2012)

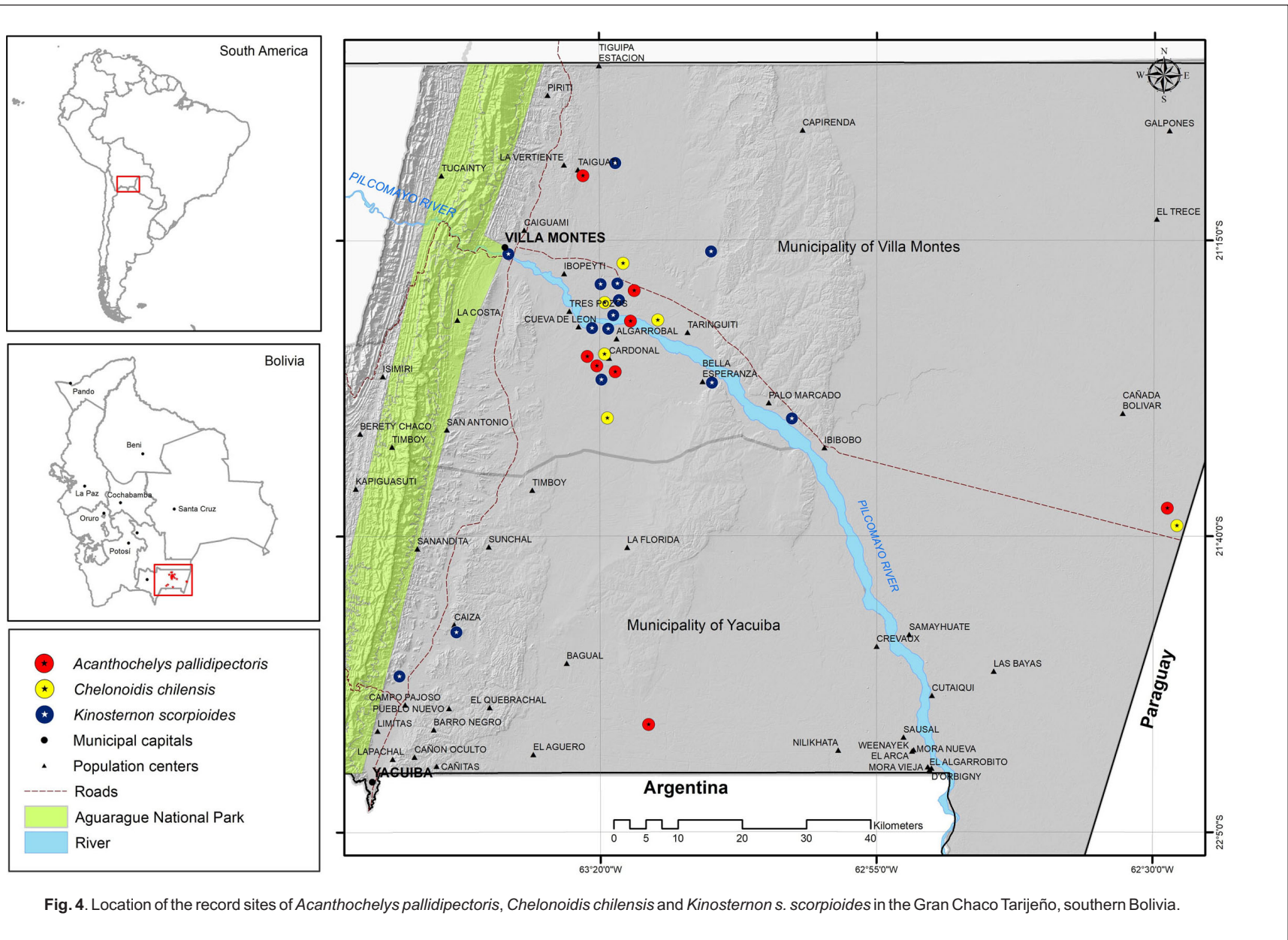
Table 1. Cont.

Taxon	Municipality	Locality	Latitude	Longitude	masl	Date	Reference
<i>K. s. scorpioides</i>	Villa Montes	Well LVT7	21°19'25.64"S	63°18'49.40"W	354	15 nov 2011	Peñaranda Barrios (2012)
<i>K. s. scorpioides</i>	Villa Montes	Forest DDV LVT7	21°20'6.19"S	63°18'14.13"W	354	21 dec 2001	Peñaranda Barrios (2012)
<i>K. s. scorpioides</i>	Villa Montes	DDV Well LVT (road to Pilcomayo)	21°21'22.47"S	63°18'44.20"W	352	23 nov 2006	Peñaranda Barrios (2012)
<i>K. s. scorpioides</i>	Villa Montes	DDV Shaffer valves	21°21'31.73"S	63°19'27.59"W	352	13 nov 2005	Peñaranda Barrios (2012)
<i>K. s. scorpioides</i>	Villa Montes	Pilcomayo River	21°21'34.86"S	63°19'30.26"W	354	10 dec 1998	Peñaranda Barrios (2012)
<i>K. s. scorpioides</i>	Villa Montes	Well EDD9	21°25'49.08"S	63°19'32.59"W	374	13 dec 2011	Peñaranda Barrios (2012)
<i>K. s. scorpioides</i>	Villa Montes	Mistolar	21°30'7.13"S	63° 2'38.33"W	325	5 jan 2015	Peñaranda Barrios (2012)
<i>K. s. scorpioides</i>	Villa Montes	TCO Weenhayek-Bella Esperanza	21°27'5.07"S	63° 9'50.54"W	338	11 nov 2012	Peñaranda Barrios (2012)
<i>K. s. scorpioides</i>	Yacuiba	Aguayrenda Mission	21°51'50.74"S	63°38'8.94"W	651	1 jul 1897	Peracca (1897)
<i>K. s. scorpioides</i>	Yacuiba	Caiza	21°48'8.52"S	63°32'58.21"W	567	1 jul 1897	Peracca (1897)
<i>K. s. scorpioides</i>	Villa Montes	Villa Montes	21°16'11.26"S	63°28'10.50"W	377	12 dec 2021	Pizarro, C., in: Inaturalist (2021)
<i>K. s. scorpioides</i>	Villa Montes	Villa Montes, Imbache	21°15'59.21"S	63° 9'52.30"W	423	19 oct 2023	Pizarro, C., in: Inaturalist (2023)
<i>K. s. scorpioides</i>	Villa Montes	LVT Field	21°19'27.43"S	63°18'26.73"W	349	15 oct 2005	Peñaranda Barrios (2012)
<i>Chelonoidis chilensis</i>	Villa Montes	LVT Field	21°19'31.31"S	63°18'22.64"W	350	5 jul 2001	Peñaranda Barrios (2012)
<i>C. chilensis</i>	Villa Montes	Escondido Field-Cardonal	21°30'3.58"S	63°19'17.86"W	385	28 nov 2004	Peñaranda Barrios (2012)
<i>C. chilensis</i>	Villa Montes	Los Suris Field	21°24'39.77"S	63°19'32.34"W	371	3 jan 2011	Peñaranda Barrios (2012)
<i>C. chilensis</i>	Villa Montes	Corbalán	21°40'14.8"S	62°27'57.3"W	280	11 dec 2004	Gonzales et al. (2006)
<i>C. chilensis</i>	Villa Montes	Mennonite Colony	21°16'59.01"S	63°17'50.44"W	499	1 nov 2022	Pizarro, C., in: Inaturalist (2021)
<i>C. chilensis</i>	Villa Montes	Pilcomayo River	21°21'47.40"S	63°14'43.64"W	338	11 oct 2017	Peñaranda Barrios (2012)

categorization for the Chaco and Monte of Argentina (Prado et al., 2012) and as NT in Bolivia (Cortez, 2009), although it is VU within the limits of the Chaco Tarijeño (Peñaranda Barrios, 2012). *Kinosternon s. scorpioides* is not included in the IUCN Red List due to its large distribution area and, consequently, it is considered of Least Concern (LC) at continental level (Rhodin et al., 2021). Although in Bolivia it would be protected by its registration in the Noel Kempff Mercado, Otuquis, and Isiboro-Sécure national parks, and in the Manuripi Amazonian Wildlife National Reserve and the Beni Biosphere Reserve and

Biological Station (Aliaga-Rossel et al., 2020), in the Chaco Tarijeño is categorized as NT (Peñaranda Barrios, 2012).

The surveys carried out since 1997 by the second author and his field team, complemented by a critical review of the specialized literature, consults of records in electronic databases such as the Global Biodiversity Information Facility (GBIF), as well as in citizen science web repositories such as iNaturalist and BioData, allowed us to compile 28 records (8 of *A. pallidipectoris*; 6 of *C. chilensis*; 14 of *K. s. scorpioides*) confirmed by sightings and photographs





in the area, which are shown here georeferenced (Table 1) and mapped (Fig. 4). The data provided here contribute to clarify and increase the knowledge about the distribution of these three taxa in the still underexplored country of Bolivia and particularly in the Chaco of Tarija. As in other cases of tortoises and freshwater turtles of the world with uneven range distributions, the degree of menace to them differs considerably among countries, encouraging governments to regulate local compliance measures regardless of the global conservation status of the species in question. This particular situation highlights then the importance of determining regional geographical ranges as accurately as possible.

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