



## CHIMANGO CARACARA (*MILVAGO CHIMANGO*) ENTANGLED IN FISHING TACKLE IN SOUTHEASTERN BUENOS AIRES PROVINCE, ARGENTINA

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**Abstract** · Abandoned, lost, or discarded fishing tackle, including monofilament lines, often result in negative impacts on a variety of birds. However, scarce information is available for South American raptors. Here we report three instances of raptor entanglements or injured birds in southeastern Buenos Aires, Argentina, all belonging to the Chimango Caracara (*Milvago chimango*). The sightings include one injured female (2015), and one male and two females entangled in nylon monofilament lines (2017). All observations referred to live individuals during the species breeding season.

**Resumen** · Chimango (*Milvago chimango*) enredado en aparejos de pesca en el sudeste de la provincia de Buenos Aires, Argentina

Las artes y aparejos de pesca abandonados, perdidos o descartados, incluidas las líneas de nylon o monofilamento, a menudo tienen un impacto negativo en una variedad de aves. Sin embargo, es escasa la información disponible para aves rapaces en América del Sur. Presentamos tres casos de aves enredadas o mutiladas en el sudeste bonaerense, Argentina; todos pertenecientes al Chimango (*Milvago chimango*). Los avistamientos incluyen una hembra mutilada (2015) y un macho y dos hembras enredadas en líneas de nylon o monofilamento (2017). Todos los hallazgos incluyeron individuos vivos durante la temporada reproductiva de la especie.

**Key words:** Argentina · Buenos Aires Province · Chimango Caracara · Entanglement · Fishing raptors

There is ample evidence suggesting that abandoned, lost, or discarded fishing tackle represents a significant threat to waterbirds and other wildlife globally (Laist 1987, MacPhee et al. 2002, Chiappone et al. 2005, Lewin et al. 2006, Radomski et al. 2006). Waterbirds, and other avian groups, may be injured or die when they encounter lost or discarded fishing tackle. For instance, piscivorous birds can consume fish with tackle attached and ingest or become entangled in such tackle, which can lead to various injuries including lead poisoning (Simpson et al. 1979, Franson et al. 2003). A great variety of birds, including waterbirds, seabirds, passerines, and raptors, have been impacted by entanglement in fishing tackle, including nylon monofilament lines (Knight et al. 1980, Bartel 1984, Watson 1989, Woehler 1990, Yorio et al. 2014, Tirtaningtyas & Hennicke 2015). Despite the risk tackle poses to birds there have been few studies on the impact of tackle including nylon monofilament lines in South American birds, particularly raptors at sport/recreational fishing and angling sites in Argentina.

Here we report three instances of raptor entanglements or injured birds of the Chimango Caracara (*Milvago chimango*) in southeastern Buenos Aires involving fishing and angling sites. On 21 June 2015, one live female caracara was sighted and photographed while standing near its potential nesting area in the vicinity of La Cruz Island, located within the coastal village of Mar Chiquita (37°46'S, 57°27'W), an important coastal fishing site in this province (Lucifora 2001, Pellegrino & Cousseau 2005). The bird was clearly missing the lower part of its left leg (from the tarsus). Due to the type of laceration observed in this bird it is highly likely that the loss of the leg is linked to the interaction of the individual with sport or recreational fishing activities in the area. This female bird was re-sighted in the area on several occasions during that same year, including in July, August and September, and also during the following year in September 2016, and in November 2017. All sightings are presumed to belong to the same individual as the bird was seen paired with a banded male (band-code number 08). Pair fidelity in the Chimango Caracara has been previously recorded in Argentina for at least three consecutive reproductive periods (Solaro 2014).

On 14 October 2017, two live female caracaras were sighted and photographed in the vicinity of the coastal village of La Caleta (37°47'S, 57°27'W), located just 6 km south of Mar Chiquita. The birds were found standing on the ground (sandy beach) with a light coloured nylon (monofilament) line wrapped around the left leg of one bird and both legs of the other bird

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**Figure 1.** Female Chimango Caracara (*Milvago chimango*) entangled in monofilament sighted in mid-October 2017, La Caleta coastal village. Photos by Federico Galván & Carolina Block.



**Figure 2.** Female Chimango Caracara (*Milvago chimango*) entangled in monofilament along with another female (Figure 1) sighted and photographed in mid-October 2017, La Caleta coastal village. Photos by Federico Galván & Carolina Block.

(Figures 1–2). Both birds were found entangled in the same line, thus the individuals were incapable of taking off from the ground. Two of us (FG and CB) captured the birds and successfully released the birds. The caracaras were not harmed in the process and were released in presumably good conditions.

On 16 October 2017, one live male caracara was registered and photographed in Los Padres Lagoon, located 23 km north of the city of Mar del Plata (37°57'S, 57°44'W). This area is another important fishing and angling site in the province (Cardoni et al. 2008). The bird was found with dark nylon monofilament line wrapped around the tip of its right



**Figure 3.** Male Chimango Caracara *Milvago chimango* entangled in monofilament observed in mid-October 2017, Los Padres Lagoon, Argentina. Photo by Alberto Moreno.

wing (Figure 3), particularly near the outermost primary feathers (from P10 to at least P5). Local rangers posted in the area captured the bird and successfully removed the line. The bird was not harmed in the process and was released in presumably good conditions (Alberto Moreno, pers. comm.).

The entanglement of the Chimango Caracara demonstrates the potential sensitivity of this species to human leisure activities, such as recreational fisheries. In this regard, it is important to mention that the species has a generalist diet and exhibits a remarkable feeding opportunism, feeding both on carrion and live prey (Bó et al. 2007). Moreover, the Chimango Caracara is considered an innovative predator with the ability to adapt to novel environmental conditions and to colonize new habitats (Biondi et al. 2008, 2010). Information on the diet of the species during the breeding season – which ranges from November to March in the study area – includes fishes as prey items, chiefly obtained as carrion, yet carrion constitutes less than 1% of the total number of prey (Biondi et al. 2005, Bó et al. 2007).

The most up-to-date data on the species number based on road surveys conducted in the vicinity of Mar Chiquita Lagoon (2006–2009) indicates a local abundance estimated at about 2000 individuals, none of which was reported either injured or harmed during the counts (Baladrón et al. 2017). Thus, given its abundance the proportion of affected individuals due to entanglement is likely to be very low. In fact, given the large number of fishing and angling sites present in the southeastern section of Buenos Aires province (Pellegrino and Cousseau 2005, Llompart et al. 2012, Yorío

et al. 2014), and the habits of this species, it is surprising that instances of entanglements have not been previously reported.

Two decades ago, Laist (1997) included only the Pandionidae (ospreys) as entangled birds-of-prey in marine debris in a global review. Kühn et al. (2015) updated this list though omitted including coastal raptors. However, Ryan (2018) indicated that other raptors such as fishing-owls (Strigidae) may be impacted by discarded anthropogenic materials. When taking into account coastal birds other than raptors, sea-birds, such as the Olrog's Gull (*Larus atlanticus*), have been previously affected by the interaction with sport fisheries within the vicinity of Mar Chiquita Lagoon, resulting in dead or injured individuals (Berón & Favero 2009). Moreover, the Kelp Gull (*L. dominicanus*) was recently recorded killed and injured by discarded monofilament lines at Bahía San Blas, the site of one of the main shore-based recreational fisheries of the southwestern Atlantic, also placed within the southern sector of Buenos Aires Province (Yorio et al. 2014). The entanglement of the Chimango Caracara, as with many other vertebrate species, is probably the consequence of using human waste as food source (Yorio et al. 2014, Plaza & Lambertucci 2017).

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