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NECROPSY FINDINGS: FIRST RECORD OF RODENT IN SOUTHERN RIVER OTTER (*Lontra provocax*) DIET AND ITS LINK TO RODENTICIDES IN SOUTHERN CHILE

Camila Diaz-Mancilla[1,2],Carlos González,3, Camilla Solari-Romkema4, Beatriz Sotomayor4, Nicole Delgado-Parada[5,6], Carla Soto6, Carlos Calvo-Mac,2 and Gonzalo Medina-Vogel2

1.- Master's in Natural Resources, Faculty of Life Sciences, Andrés Bello University, Santiago, Chile.
diazmancilla.cx@gmail.com
2.- Research Center for Sustainability, Andrés Bello University, Santiago, Chile.
3.- School of Veterinary Medicine, Andrés Bello University.
4.- Department of Biological Sciences, Faculty of Life Sciences, Andrés Bello University.
5.- Faculty of Biological Sciences, Pontifical Catholic University of Chile, Santiago, Chile.
6.- Tarahuillin movement.

Introduction

Postmortem analysis is a fundamental tool for studying wildlife. In Chile, recent findings from the necropsies of two Southern river Otter individuals killed by vehicle collisions in 2024 have significantly enriched our understanding of this species' biology and life history.
This mustelid faces multiple threats that have led to a drastic population decline, currently classifying it as endangered according to the IUCN. Despite the promising contributions of these studies, they do not fully capture the wide range of threats this species faces in the wild. Research on the huillín is methodologically challenging due to its elusive nature, which has resulted in most of the available information coming from indirect studies, such as the analysis of feces collected in the environment. These studies have provided insights into its diet but likely overlook important factors, such as exposure to environmental contaminants. In this study, we analyze new findings related to the diet of this mammal and explore how these may be linked to one of the most significant contaminants affecting wildlife and its survival.


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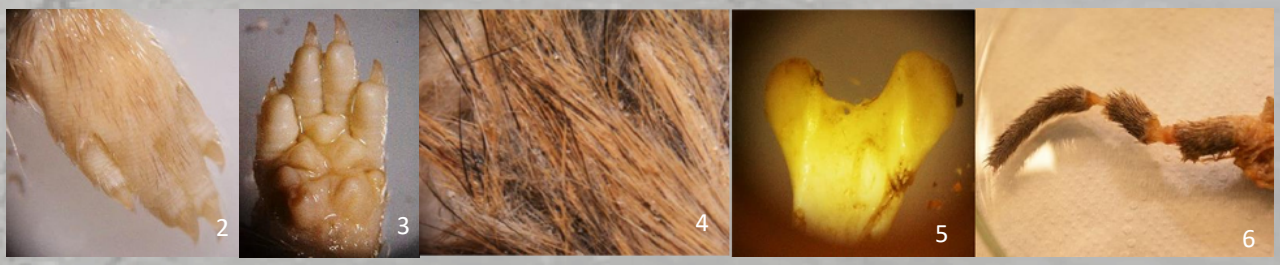
Methodology

On July 22 and October 10, two individuals were killed in vehicle collisions near Lake Tarahuin, located on Chiloé Island in the Los Lagos Region of southern Chile. The specimens consisted of a juvenile male and an adult female (1) in the lactation period. Both individuals were transported to the facilities of Universidad Andrés Bello with authorization from the National Fisheries and Aquaculture Service and in compliance with established biosafety measures.
Postmortem analyses confirmed that the cause of death in both cases was trauma caused by vehicle collisions. These analyzes including histopathological analysis, environmental contaminant evaluation, and other aspects related to the species' ecology. In 2024, fecal samples were collected and analyzed from areas related to the watercourse of the collisions to complement the studies conducted on these individuals.

Results

- **Juvenile male**: The toxicological analysis was positive for rodenticides, and right renal agenesis was diagnosed.
- **Adult female**: The dietary analysis identified remains of a rodent native to Chile, *Irenomys tarsalis*. Among the collected remains were bones, fur, an anterior limb, an ear, and a tail. Additionally, microscopic characterization of the guard hairs was performed to properly identify the individual (2 -6).
- **Findings from fecal samples**: In addition to remains of fish, lampreys, and crustaceans, these samples also contained rodent fur.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Discussion and Conclusion

The findings obtained through postmortem studies open new lines of investigation regarding the life history of *Lontra provocax*, particularly in relation to its consumption of rodents. This behavior may be linked to the high rodent density in the area, attributed to the accumulation of debris near the bridge. Furthermore, fecal samples collected prior to the incidents also showed the presence of rodent fur, indicating that this is not an isolated case. Recent studies have suggested that the type of bridge over Lake Tarahuin negatively impacts wildlife, which could be contributing to the alteration of the local ecosystem. Additionally, further research on coumarin contaminants and their concentration is essential to determine whether these factors played a key role in the vulnerability of the juvenile individual. Both findings provide new evidence for this species in Chile.