

## REPORT

### SIGHTING OF AN INTERACTION BETWEEN A NEOTROPICAL OTTER, *Lontra longicaudis* AND A TEJU LIZARD, *Tupinambis merianae* IN A LAGOON ECOSYSTEM OF SOUTHERN BRAZIL

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**Abstract** - Otters are opportunistic feeders in that they feed upon whatever available prey. Sightings of live otters in their natural environment are uncommon, mainly because otters are known to have shy habits, avoiding human presence. Despite the fact that reptiles are listed in the neotropical otter's diet, they just constitute a small part of it. This paper aims to report an unusual sighting of interaction between a neotropical otter, *Lontra longicaudis*, and a Teju lizard, *Tupinambis merianae*, in a lagoon environment of southern Brazil, characterized as predation.

**Keywords:** ecology, neotropical otter, *Lontra longicaudis*, Lagoon ecosystem, Southern Brazil.

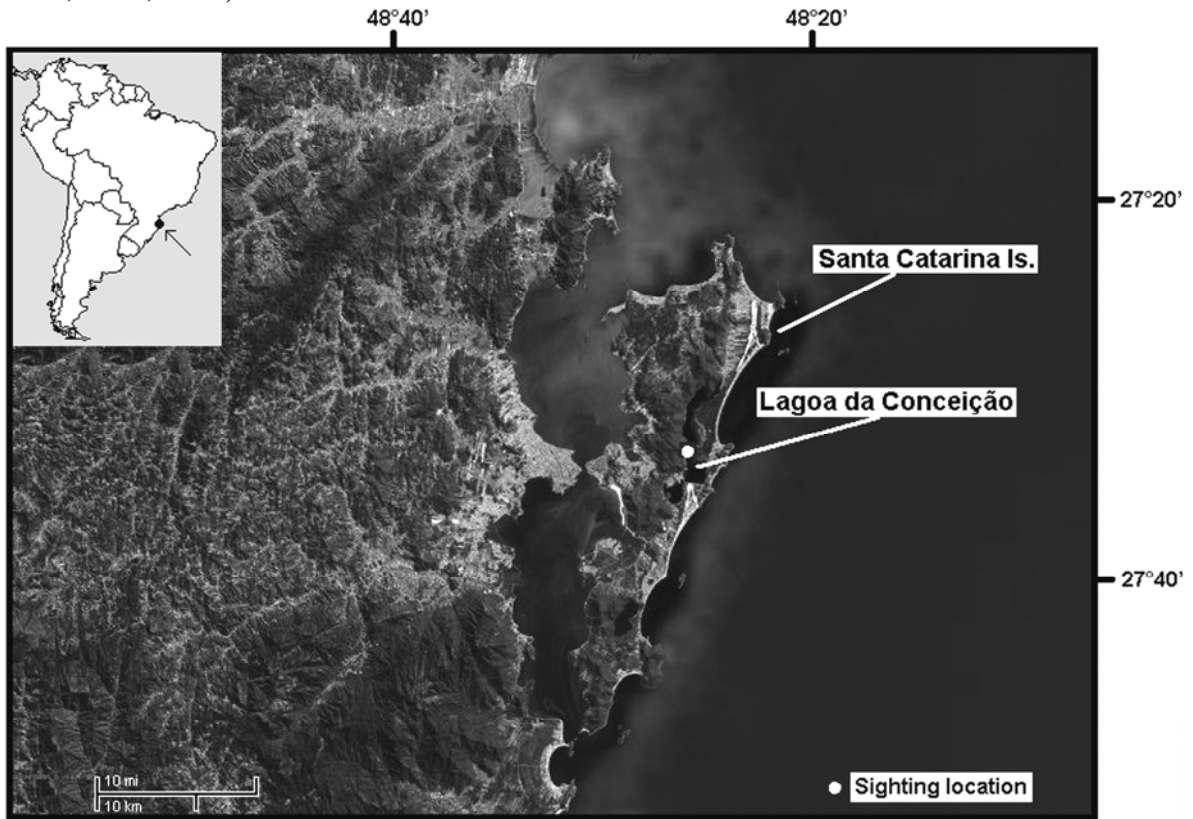
The neotropical otter, *Lontra longicaudis*, (Olfers, 1818) has a large distribution in Latin America, occurring in Central and South America and has its austral limit in northern Argentina (Chehebar, 1990). In Brazil, although there are records of the species' occurrence in coastal marine areas (Blacher, 1987; Alarcon and Simões-Lopes, 2003, 2004), it is a general belief that the sea is a transit area for the neotropical otter, which concentrates its feeding habits mostly in fresh water environments.

Otters are opportunistic feeders in that they feed upon whatever available prey, mostly reported on slower moving fish (Mason and Macdonald 1987; Taastrøm and Jacobsen, 1999) because of their vulnerability to predation.

Sightings of live otters in their natural environment are uncommon mainly because otters are known to have shy habits, avoiding human presence, hence the majority of ecological studies relying on indirect observation methods (Blacher, 1987; Passamani and Camargo, 1995, Quadros and Monteiro-Filho, 2001, Kasper et al., 2004), mainly by documenting their typical behavior of defecating at prominent places within their home ranges (eg. Beja 1991, Passamani and Camargo, 1995; Quadros and Monteiro-Filho, 2001). This paper aims to report an unusual sighting of interaction between a neotropical otter and a teju lizard in a lagoon environment of southern Brazil.

The Hydrographic Basin of Lagoa da Conceição is located on the east coast of Santa Catarina Island (27°27'S, 48°22'W), covering an area of 116.78 Km<sup>2</sup> (IPUF, 1998) (Figure 1). It extends in a north-south orientation, ranging 13.5km in length, varying in width from 200m to 2.5km. The lagoon is linked to the sea by a shallow 2.5km long channel, which reduces the tide effects inside the lagoon (Odebrech and Caruso Junior, 1987). The freshwater contribution to the Lagoa da Conceição comes from regular rain precipitation, from small watercourses on the western border and from Capivaras River, which reaches the northern point of the lagoon (Dutra, 1990). The study area has a subtropical climate, characterized by a yearly average temperature of 20.4°C and a relative air humidity of 80%.

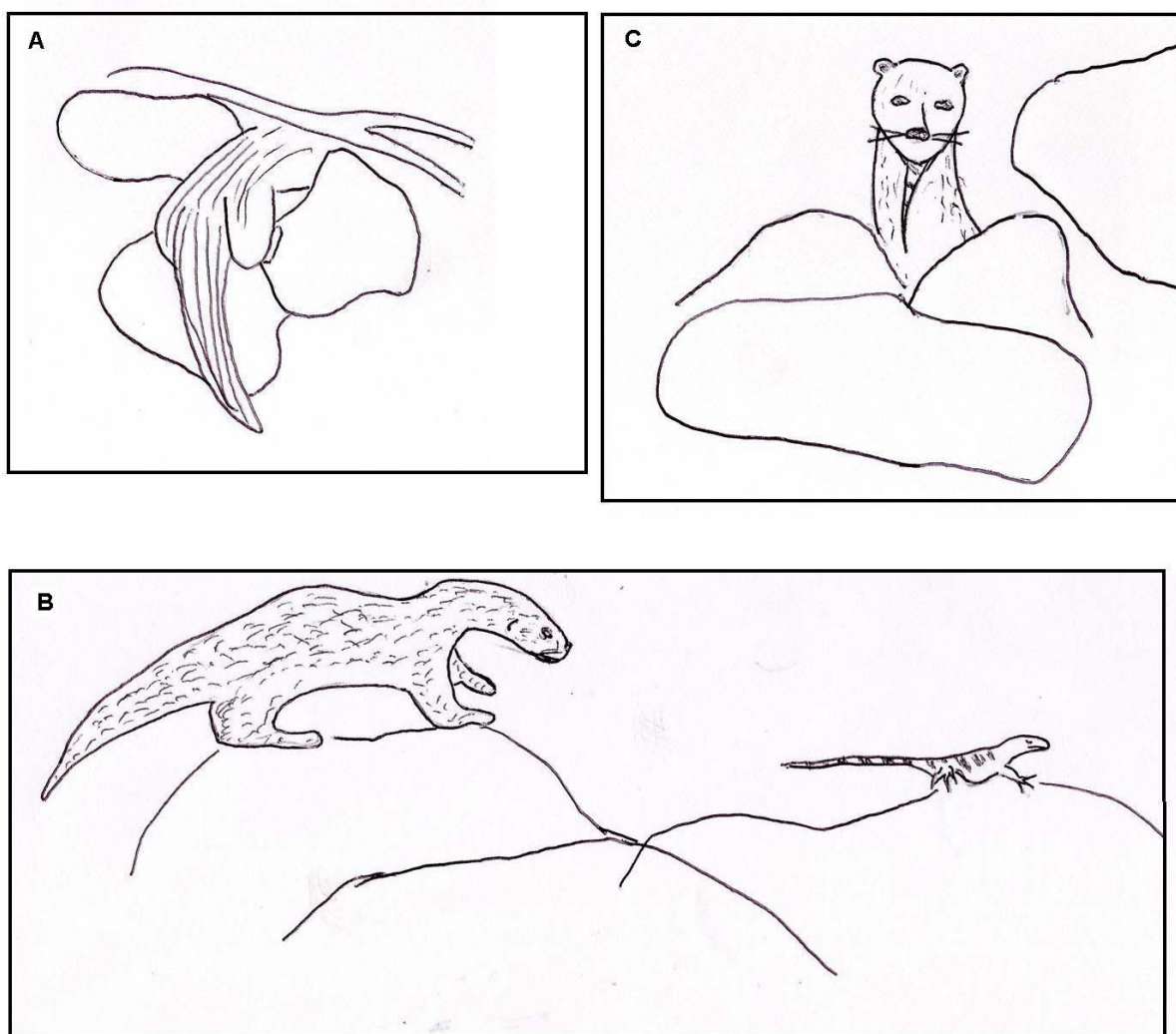
The once abundant Atlantic Rain Forest is limited to the Protected Areas, such as the granite hills surrounding the lagoon (CECCA, 1997). During the last 15 years the human population in Lagoa da Conceição has increased three-fold and the local development for tourism and national migration is bringing serious environmental concerns, such as lagoon pollution and occupation of protected areas (Hauff, 1996; CECCA, 1997, 2001).



**Figure 1.** Study area localization in the Lagoa da Conceição, Santa Catarina Island, southern Brazil. White dot indicate the approximate sighting location.

During a trekking in Costa da Lagoa (27°S, 48°W), on October 22<sup>nd</sup>, 2005, I opportunisticly sighted a neotropical otter, which I have estimated to be no more than one meter long, at a site approximately 40m away from the lagoon. That location was a typical otter habitat, covered by rocks and vegetation, and near water with good shelter

opportunities (Chehebar, 1990; Waldemarin et al., 1998). The animal crossed about 15m from me, at an elevated position in relation to my eyes, because it was on the rocks. The sighting comprised of two quick observations. First, the otter was identified from behind, by its characteristic conic bulky tail and brown pelage, moving fast and going northwards along the trail (Figure 2A). I heard what sounded like steps (breaking branches), and when looking in the direction of the sound, I saw a teju lizard (*Tupinambis merianae*) (Linnaeus, 1758) of about 40 centimeters running away from another larger animal among the vegetation and rocks (Figure 2B). Less than one minute later, I could identify the animal as being the otter, which remained pointed toward me and looking in my direction, clearly showing its face. At this time I could see that the otter had a piece of a reptile tail coming out of its mouth (Figure 2C), linking this event to the previously observed teju lizard.



**Figure 2.** Illustrations of the sighting of a neotropical otter (*Lutra longicaudis*) and a teju lizard (*Tupinambis merianae*). (A) Shows the otter sighted from its backside, showing its characteristic conic bulky tail and brown pelage; (B) shows the teju lizard running away from the otter among the rocks; (C) shows that the otter had a piece of a reptile tail coming out of its mouth.

The literature contains innumerable items of information regarding the otter's diet and while reptiles are listed as potential prey, few works report on this (see also Beja, 1991; Helder and Andrade, 1997; Alarcon and Simões-Lopes, 2004).

Clavero et al. (2005) are one of the few who report more detailed information about amphibian and reptile consumption by otters (*Lutra lutra*) in the Iberian Peninsula, describing prey species and seasonality of predation by the otters. Despite the feeding habits of the otters being well documented, they fail to report on any other report of predation on land. In fact, even if otters are known to feed on reptiles, these are usually aquatic species (Clavero et al., 2005).

Some studies in Brazil have shown that the feeding habits of *L. longicaudis* in coastal marine environments presented similar patterns compared with the species' diet in freshwater ecosystems. In the Environmental Protected Area (EPA) of Anhatomirim, Alarcon and Simões-Lopes (2004) identified that fish constitute the dominant prey group, as similarly reported in other studies carried out on the same species in rivers and lagoons of South America (Carvalho, 1990; Blacher and Soldatelli, 1996; Helder and Andrade, 1997; Pardini, 1998; Quadros and Monteiro-Filho, 2001; Gori et al., 2003).

Crustaceans are commonly cited as the second main prey group for *L. longicaudis* (Helder and Andrade, 1997; Pardini, 1998; Quadros and Monteiro-Filho, 2001), with some exceptions, where it can appear as the dominant group (Spinola and Vaughan, 1998) or be absent (Kasper et al., 2004).

Other prey groups such as amphibians, clams, mammals, and insects appeared in low frequency in southern Brazil, whether in coastal marine environments (Alarcon and Simões-Lopes, 2003) or in freshwater environments (Helder and Andrade, 1997; Pardini, 1998; Quadros and Monteiro-Filho, 2001).

A richness of species in *L. longicaudis* diets going up to 7 suggests that escaping ability is the main factor influencing the selection of the otters' preys (Pardini, 1998; Gori et al., 2003; Kasper et al., 2004). In another area of Southern Brazil, Vale do Taquari, six prey groups, fish (89%), mammals (8,8%), insects (5,6%), birds (1,6%), amphibians (0,8%) and mollusks (0,8%) were found in 263 samples (Kasper et al., 2004). No evidences of feeding on reptiles were found.

The described observation brings important new information about the opportunistic otter foraging behavior, of predation on a teju lizard in a coastal lagoon of Southern Brazil, mainly to the fact that the lizard was not captured in the water but on land.

The patterns of coastal habitat use by *L. longicaudis* are still not well understood. For a better understanding of the diverse potential preys taken by foraging otters, we need more information about prey availability and anthropogenic impacts such as over-fishing and intensive exploration of the coastal zones for tourism activities. Such information should also be useful to implement local conservation strategies for neotropical otters and their environment.

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## References

- Alarcon, G.G., Simões-Lopes, P.C. 2003.** Preserved versus degraded coastal environments: a case study of the Neotropical otter in the Environmental Protection Area of Anhatomirim, Southern Brazil. IUCN Otter Spec. Group Bull. **20**, 6-18.
- Alarcon, G.G., Simões-Lopes, P.C. 2004.** The Neotropical Otter *Lontra Longicaudis* feeding habits in a marine coastal area, Southern Brazil. IUCN Otter Spec. Group Bull. **21**, 24-30.
- Beja, P. R. 1991.** Diet of otters (*Lutra lutra*) in closely associated freshwater, brackish and marine habitats in south-west Portugal. J. Zool. (Lond.) **225**, 141-152.
- Blacher, C. 1987.** Ocorrência e preservação de *Lutra longicaudis* (Mammalia:Mustelidae) no litoral de Santa Catarina. Boletim FBCN **22**, 105-117.
- Blacher, C., Soldateli, M. 1996.** Considerações preliminares sobre o número e distribuição espaço/temporal de sinais de *Lutra longicaudis* nas Lagoas da Conceição e do Peri, Ilha de Santa Catarina, Brasil. Biotemas **9**, 38-64.
- Carvalho, J. 1990.** Aspectos da autoecologia de *Lutra longicaudis* (Olfers, 1818) no ecossistema da Lagoa do Peri, SC, Brasil. M.Sc. thesis, Universidade Federal de Santa Catarina, Florianópolis, Brazil. 95pp.
- Centro de Estudos Cultura e Cidadania - CECCA. 1997.** Uma cidade numa Ilha: relatório sobre os problemas sócio-ambientais da Ilha de Santa Catarina. Florianópolis: Insular.
- Centro de Estudos Cultura e Cidadania - CECCA. 2001.** Qualidade de vida e cidadania: a construção de indicadores socioambientais da qualidade de vida em Florianópolis. Florianópolis: Cidade Futura.
- Chehebar, C. 1990.** Otters: An Action plan for Latin American Otters. In: Otters: An Action Plan for their Conservation. IUCN/SCC Otter Specialist Group, 126pp.
- Clavero, M., Prenda, J., Delibes, M. 2005.** Amphibian and reptile consumption by otters (*Lutra lutra*) in a coastal area in southern Iberian Peninsula. Herpetological Journal, **15**, 125-131.
- Dutra, S.J. 1990.** Caracterização geo-ambiental na bacia de drenagem do Rio João Gealberto, Ilha de Santa Catarina, S.C. Master's thesis. Universidade Federal de Santa Catarina, Florianópolis.
- Gori, M., Carpaneto, M.G., Ottino, P. 2003.** Spatial distribution of the neotropical otter *Lontra longicaudis* in the Ibera Lake (northern Argentina). Acta Theriol. **48**, 495-504.
- Hauff, S. N. 1996.** Diagnóstico ambiental integrado da Bacia Hidrográfica da Lagoa da Conceição. Master's thesis, 145 p. Universidade Federal de Santa Catarina, Florianópolis, Brazil.
- Helder, J., Andrade, H.K. 1997.** Food and feeding habits of the neotropical river otter *Lontra longicaudis* (Carnivora: Mustelidae). Mammalia **61**, 193-203.
- Instituto de Planejamento Urbano de Florianópolis – IPUF. 1998.** Planejamento: Parâmetros urbanísticos. Florianópolis. Disponível em <<http://www.ipuf.sc.gov.br>>.
- Kasper, C.B, Feldens, M.J, Salvi, J., Grillo, H.C.Z. 2004.** Estudo preliminar sobre a ecologia de *Lontra longicaudis* (Olfers) (Carnivora, Mustelidae) no Vale do Taquari, sul do Brasil. Revista Brasileira de Zoologia **21**, 65-72.
- Mason, C.F., Macdonald, S.M. 1987.** The use of spraints for surveying otter *Lutra lutra* populations: an evaluation. Biological Conservation, **41**, 167-177
- Odebrecht, C., Caruso Junior, F. 1987.** Hidrografia e matéria particulada em suspensão na Lagoa da Conceição, Ilha de Santa Catarina. Rio Grande: Atlântica **1**, 83-104.
- Pardini, R. 1998.** Feeding ecology of the neotropical river otter *Lontra longicaudis* in an Atlantic Forest Stream, south-eastern Brazil. J. Zool., Lond, **245**, 385-391.
- Passamani, M., Camargo, S. L. 1995.** Diet of the river otter *Lutra longicaudis* in Furnas reservoir, south-eastern Brazil. IUCN Otter Spec. Group Bull. **12**, 32-34.
- Quadros, J., Monteiro-Filho, L.A. 2001.** Diet of the neotropical otter, *Lontra longicaudis*, in an Atlantic Forest area, Santa Catarina State, Southern Brazil. Studies on Neotropical Fauna and Environment **36**, 15-21.
- Spinola, M.R., Vaughan, C. 1998.** The diet of the neotropical otter, *Lontra longicaudis*, in Costa Rica. IUCN Otter Spec. Group Bull. **19A**, 341-345.
- Taastrøm, H.M., Jacobsen, L. 1999.** The diet of otters, *Lutra lutra*, in Danish freshwater habitats: comparisons of prey fish populations. J. Zool., Lond. **248**, 1-13.
- Waldemarin, H.F, Colares, E.P, Albuquerque, A. Blacher, C. 1998.** Status of the Neotropical River Otter, *Lontra longicaudis*, in Brazil. IUCN Otter Spec. Group Bull. **19A**, 379 -381.

**Resumé: REGARD SUR L'INTERACTION ENTRE UNE LOUTRE NÉOTROPICALE (*Lontra longicaudis*) ET UN LÉZARD TÉJU (*Tupinambis merinae*) DANS UN ÉCOSYSTÈME LAGUNAIRE DU SUD DU BRÉSIL**

Les loutres sont des prédateurs opportunistes qui chassent les proies là où ils les trouvent. Les observations de loutres dans leur biotope naturel sont rares, les loutres étant bien connues pour leur timidité, et elles évitent tout contact humain. Quoique les reptiles figurent parmi les proies de la loutre sud-américaine, *Lontra longicaudis*, ils sont une catégorie de proie minimale. Cet article décrit l'observation inhabituelle d'une rencontre entre une loutre sud-américaine, *Lontra longicaudis*, et d'un gros lézard Tegu, *Tupinambis meriana*, dans un marécage au sud du Brésil, que nous avons classée comme un acte avec intention de prédation éventuel.

**Resumen: AVISTAJE DE UNA INTERACCIÓN ENTRE UNA NUTRIA DE RÍO NEOTROPICAL, *Lontra longicaudis*, Y UN LAGARTO BLANCO, *Tupinambis meriana*, EN UN AMBIENTE LACUSTRE DEL SUR DE BRASIL**

Nutrias de río son predadores oportunistas que se alimentan de cualquier presa disponible. Avistajes de nutrias en la naturaleza son poco comunes, principalmente debido a su comportamiento elusivo y a que evitan la presencia del hombre. A pesar de que reptiles han sido listados como parte de la dieta de la nutria, éstos solo constituyen una pequeña fracción. Este artículo reporta un avistaje poco usual de depredación entre una nutria de río neotropical, *Lontra longicaudis*, y un lagarto blanco, *Tupinambis meriana*, en un ambiente lacustre del sur de Brasil.