Mammalia, Carnivora, Mustelidae, *Lontra longicaudis* Olfers, 1818: Occurrence record in an estuary area in the state of São Paulo, Brazil

Jose Pedro N. Ribeiro¹ and Renata A. Miotto²

¹ Universidade Federal de São Carlos, Departamento de Botânica, Laboratório de Taxonomia e Ecologia Química. CEP 13565-905. São Carlos, SP, Brazil.
² Universidade Federal de São Carlos, Departamento de Genética e Evolução, Laboratório de Biodiversidade Molecular e Citogenética. CEP 13565-905. São Carlos, SP, Brazil.
* Corresponding author. E-mail: jpnr@jpnr.com.br

**ABSTRACT:** A new record of *Lontra longicaudis* (Olfers, 1818) in the Massaguaçu River estuary (São Paulo, Brazil) is reported based on indirect (footprints and feces) and direct registers of otters presence. This record details the otter distribution in the Atlantic Rain Forest.

The Neotropical river otter (*Lontra longicaudis*) is a widely distributed semi-aquatic species, occurring from Mexico to the north of Argentina (Figure 1) (Emmons and Feer 1997; Cheida et al. 2006). This species occurs from the sea level to 3,000 m, and inhabits lakes, rivers and the sea shore (Emmons and Feer 1997), in association with a variety of vegetation types (Lariviere 1999; Kasper et al. 2004).

Despite its large distribution, there is a lack of behavioral, ecological and genetics information on this species. Among Eurasian, African and American otter species, *L. longicaudis* is one of the less studied (Pardini and Trajano 1999; Silva et al. 2005). It is also considered a ‘data deficient’ species in the IUCN Red List (IUCN 2009) as anthropogenic effects on *L. longicaudis* populations decline remains uncertain (Waldemarin and Alvares 2008). The main threats to the species persistence are both pollution and contamination of aquatic systems, deforestation of riparian vegetation and rivers drainage for agricultural and pasture land uses (Chehebar 1990; IUCN 2009).

In Brazil, studies are concentrated mainly in otter food habits of south and southeast populations. These studies were based on scats collection and analysis of freshwater or marine coastal *L. longicaudis* populations (Helder and De Andrade 1997; Pardini 1998; Colares and Waldemarin 2000; Quadros and Monteiro-Filho 2001; Kasper et al. 2004; Alarcon and Simões-Lopes 2004; Quintela et al. 2008).

We report here the *L. longicaudis* occurrence in the Massaguaçu River Estuary, at Caraguatatuba municipality, São Paulo state, Brazil (23°37’20” S, 54°21’25” W) (Figure 1). This estuary is separated from the ocean by a sandbar forming a blind estuary area (Miranda et al. 2002). The sandbar breaches several times per year at irregular intervals, and the timing and duration of the flooding cycles are unpredictable. Surrounding the estuary area, one margin is a human-occupied area, while the other margin is composed of distinct Atlantic Forest phytosociognomies.

Since January 2007, we have found footprints and scats of *L. longicaudis* on the Massaguaçu River margins (Figure 2). We noticed these marks occasionally while conducting floristic experiments in the region. Vestiges were especially evident when the sandbar breached, occasions where water level decreased and mostly of the estuary floor became exposed. Otters usually lay feces or select spraiting sites on rivers margins, rocks or holts (Pardini and Trajano 1999; Quadros and Monteiro-Filho 2002), aspects probably associated with the species social communication. In January 2010, we finally made an occasional direct record of an otter individual in the area (Figure 3).

In the São Paulo, previous records of *L. longicaudis* presence in the Atlantic Rain Forest were only made in the southern region of the state. Pardini and Trajano (1999) studied otter shelters in the Vale do Ribeira region; Nakano-Oliveira et al. (2004) monitored a male otter by radio-telemetry surrounding the Cananéia island; and Silva et al. (2005) verified otter occurrence and distribution in the Ilha do Cardoso, Cananéia and Ilha Comprida islands.
Conserving wildlife species in the Atlantic Rain Forest is a great challenge to conservation biologists and information on presence and distribution of endangered species are crucial to conservation efforts. Thus, considering the insufficient knowledge of the species, mapping the *L. longicaudis* occurrence and its major threats may contribute for planning conservation strategies toward the species persistence.

**LITERATURE CITED**

Alarcon, G.G. and P.C. Simões-Lopes. 2004. The Neotropical otter *Lontra longicaudis* feeding habits in a marine coastal area, southern Brazil. *IUCN Otter Specialist Group Bulletin* 21(1): 24-30.

Biot/FAEpS. 2008. Diretrizes para a conservação e restauração da biodiversidade no estado de São Paulo. São Paulo: Instituto de Botânica, FAPESP - Fundação de Amparo à Pesquisa do Estado de São Paulo, Programa Biot/FAEPSE. 245 p.

Chehebar, C. 1990. Otters: an action plan for Latin American otters. p. 64-73 In P. Foster-Turley, S. Macdonald and C. Mason (ed.). *Otters: an action plan for their conservation*. Gland: IUCN/SCC Otter Specialist Group. 126 p.

Chêdea, C.C. E. Nakano-Oliveira, R. Fusco-Costa, F. Rocha-Mendes and J. Quadros. 2006. Ondem Carnivora; p. 231-275. In N.R. Reis, A.L. Perachi, W.A. Pedro and I.P. Lima (ed.). *Mamíferos do Brasil* Londrina: Editora da Universidade Estadual de Londrina.

Colares, E.P and H.F. Waldemarin. 2000. Feeding of the Neotropical river otter (*Lontra longicaudis*) in the coastal region of the Rio Grande do Sul state, southern Brazil, *IUCN Otter Specialist Group Bulletin* 17(1): 6-13.

Emmons, L.H. and F. Feer. 1997. Neotropical rainforest mammals: a field guide. 2nd ed. Chicago: University of Chicago Press. 307 p.

Helder, J. and H.K. De Andrade. 1997. Food and feeding habitats of the Neotropical river otter *Lontra longicaudis* (Carnivora, Mustelidae). *Mammalia* 61: 193-203.

IUCN. 2009. *IUCN Red List of Threatened Species* Version 2009.2. Electronic database accessible at http://www.iucnredlist.org. IUCN. Captured on 25 January 2010.

Kasper, K.B., M.J. Feldens, J. Salvi and H.C.J. Grillo. 2004. Estudo Preliminar sobre a ecologia de *Lontra longicaudis* no Vale do Taquari, Sul do Brasil. *Revista Brasileira de Zoologia* 21(1): 65-72.

Lariviére, S. 1999. *Lontra longicaudis*. Mammalian Species 609: 1-5.

Miranda, L.B., R.M. Castro and B. Kjerfve. 2002. *Princípios de oceanografia física de estuários*. 1ª ed. São Paulo: Edusp. 424 p.

Nakano-Oliveira, E., R. Fusco, E.A.V. dos Santos and E.L.A. Monteiro-Filho. 2004. New information about the behavior of *Lontra longicaudis* (Carnivora: Mustelidae) by radio-telemetry. *IUCN Otter Specialist Group Bulletin* 21(1): 31-35.

Pardini, R. 1998. Feeding ecology of the Neotropical river otter *Lontra longicaudis* in an Atlantic Forest Stream, southeast Brazil. *Journal of Zoology* 245: 385-391.

Pardini, R. and E. Trajano. 1999. Use of shelters by the Neotropical river otter (*Lontra longicaudis*) in an Atlantic Forest stream, Southeastern Brazil. *Journal of Mammalogy* 80(2): 600-610.

Quadros, J. and E.L.A. Monteim-Filho. 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.

Quadros, J. and E.L.A. Monteim-Filho. 2002. Sprating sites of the Neotropical otter, *Lontra longicaudis*, in an Atlantic Forest area of Southern Brazil. *Journal of Neotropical Mammalogy* 9(1): 39-46.

Quintela, F.M., D.A. Porciuncula and E.P. Colares. 2008. Diet of *Lontra longicaudis* (Olfers) (Carnivora, Mustelidae) em um arroio costeiro da região sul do Estado do Rio Grande do Sul, Brasil. *Neotropical Biology and Conservation* 3(3): 119-125.

Silva, R.E. E. Nakano-Oliveira and E.L.A. Monteiro-Filho. 2005. Methodology for test occurrence and distribution of Neotropical otter (*Lontra longicaudis*, Olfers, 1818) in Cananéia, south coast of the state of São Paulo, Brazil. *IUCN Otter Specialist Group Bulletin* 22(1): 29-33.

Waldemarin, H.F. and R. Ahram. 2008. *Lontra longicaudis*. *IUCN Red List of Threatened Species*. Electronic database accessible at http://www.iucnredlist.org. IUCN. Captured on 25 January 2010.

**FIGURE 2.** Otter footprints and feces registered in the Massaguaçu estuary, Caraguatatuba municipality, state of São Paulo.

**FIGURE 3.** *Lontra longicaudis* specimens registered in the Massaguaçu estuary, Caraguatatuba municipality, state of São Paulo.