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UTILISATION OF RESTING SITES AND DENS BY THE NEOTROPICAL RIVER OTTER (*Lutra longicaudis*) IN THE SOUTH OF RIO GRANDE DO SUL STATE, SOUTHERN BRAZIL

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Abstract: This work was undertaken between March 1997 and February 1998 and aimed at verifying the frequency of utilisation of resting sites by the neotropical river otter (*Lutra longicaudis*). The banks of a creek located at the northern limit of the Taim Ecological Station (RS) were searched eight times, looking for places with signs of use (footprints, scratches, spraints, etc.). On the first field trip, sites found were marked and named according to some basic characteristic that allowed its re-identification on future field trips. During this work, thirteen resting-places were found to be used only once, whilst eight were used on more than one occasion. Of these, only one was used by the species on all field trips. No otter den was found in the area during the study. Otter spraints were found at 90% of the resting sites, footprints at 12%, and scratches at 16%. All the resting sites used more than once were above water during the whole study period and only one of them was located outside the woods, being found on a grass-covered bank. Based upon the results obtained, we could hypothesise that, even though the species uses this creek for resting activities during all year, it is probable that it is not used for reproduction.

Keywords: Neotropical River otter, *Lontra longicaudis*, dens

INTRODUCTION

The Neotropical River Otter (*Lutra longicaudis* Offers 1818) occurs from Mexico to the north of Argentina and is present over the whole of the Brazilian territory. It can be found in lakes, rivers, wetlands, marine shores associated with coastal lagoons, as well as a great variety of habitats associated with water bodies, such as forests and ciliar woods (BLACHER, 1987; EMMONS, 1990; MASON, 1990; ROSAS et al., 1991).

Despite all the adaptations that they exhibit to the aquatic environment otters are still largely connected to the terrestrial environment, being dependent on it for some activities such as rest, raising of young, etc. In areas that do not have great perturbations caused by human activities they are not too critical in their choice of resting sites and can use areas on the ground without any protection (MILES, 1984). In areas where disturbance is moderate they start to use protected areas, such as burrows under the ground, rocks, trees and other objects (CHANIN, 1985).. Even when they are not too critical in their choice of resting sites, places used to raise their young must be protected from the weather and other risks, and therefore they usually utilise dens (CHANIN, 1985).

The aim of this study was to analyse the characteristics of resting sites and dens used by the neotropical river otter in the area studied, as well as verifying the frequency of their use throughout the year.

STUDY AREA, MATERIAL AND METHODS

The Estiva Creek is located at the northern limit of the Taim Ecological Station, inside its buffer area (a 10km area at its perimeter). The Taim Ecological Station (ESEC Taim) has an area of 33 935 hectares and occupies part of the coastal plain of the Rio Grande and Santa Vitória do Palmar counties at the southern extreme of Rio Grande do Sul in a narrow stretch between the Mirim Lagoon and the Atlantic Ocean (32°33'S, 52°52'W)

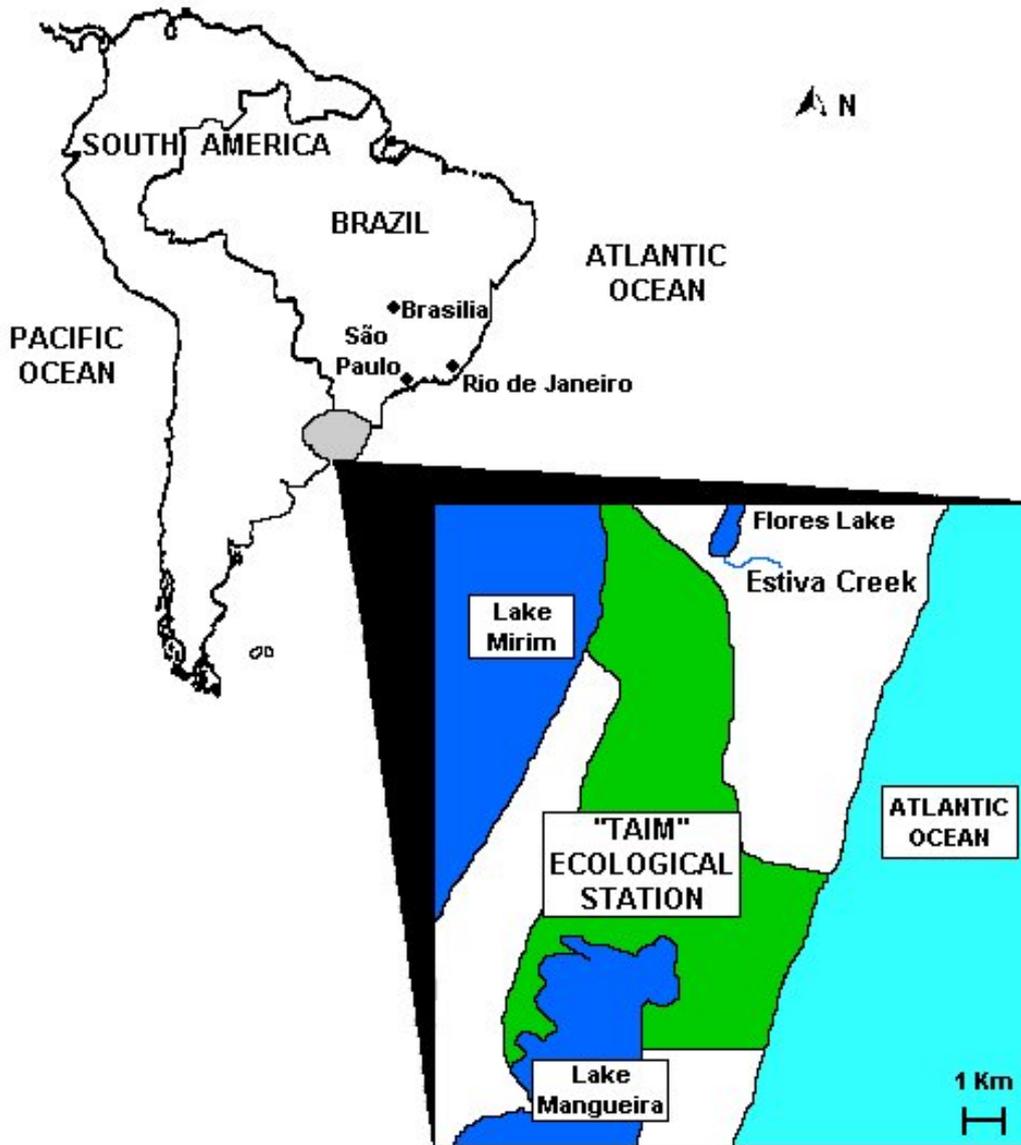


Figure 1: Study Area.

The Creek is a body of water, approximately one and a half kilometers long, which originates and terminates in wetlands. Its width varies between 1 and 5 meters and the depth varies from 1 to 4 meters. It is characterised by meanders and exhibits low hydro-dynamics, except during times of high pluviosity. The margins are characterised by banks of approximately 0.5 meters high, covered by grass or ciliar woods. Great amounts of floating vegetation are found in the water body itself.

Between March 1997 and February 1998, the banks of the Estiva Creek were walked on eight occasions. A single experienced researcher examined the banks for up to 4 meters inland, looking for evidence of otters (spraints, footprints, resting sites and dens). Resting sites were considered as places used above the ground, whilst dens were those sites found underground. Resting sites and dens found on each of the field trips were mapped and classified as either in use or not.

RESULTS

A total of 21 resting sites were found during the study period. No sites were found that could be classified as dens. Thirteen were in use on only one occasion and the other eight were in use for at least two of the field trips. Only one site was in use during all the field trips.

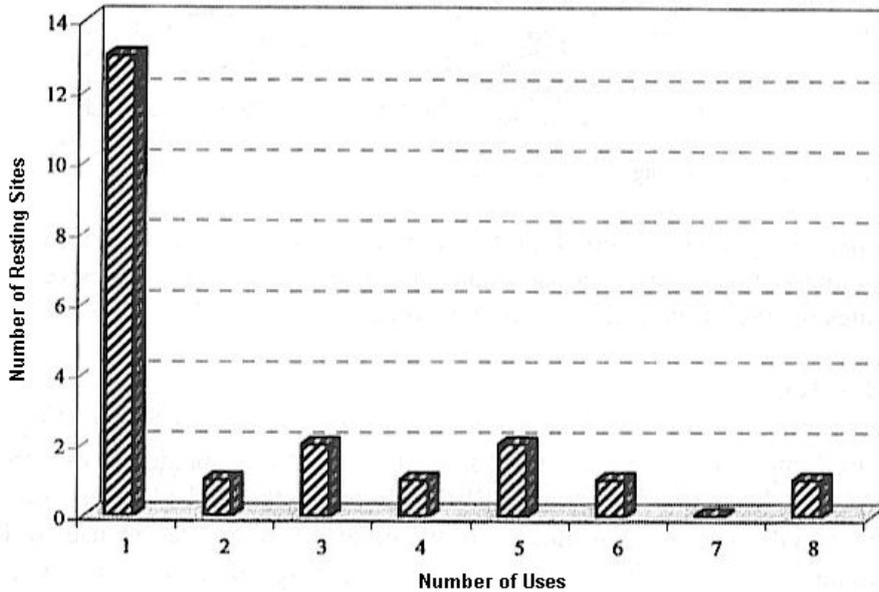


Figure 2: Frequency of the use of resting sites.

Otter spraints were found at 90% of the rest sites. Only three of these sites also displayed scraping behaviour (12% of total sites) and footprints (16% of sites), these being resting sites which were used on four, five, and eight occasions. At all other sites only spraints were found. All resting sites were located within two meters of the river bank and all were above the high water mark.

Even though approximately half the length of the creek is covered with grasses (the rest being typified by arboreal vegetation), only one of the resting sites was located outside the wooded area. This site was located in a grass-covered region, protected by high banks, which hindered the access of people and animals. The location of the resting sites utilised more than once is shown in Figure 3.

Three further sites were found in the study area that could have been used as dens by the species. However, no signs of use by the species were ever observed at these sites on any of the field trips to the Creek.

DISCUSSION

Most resting sites identified in the Estiva Creek were temporary. Only seven sites were used more than twice, and could therefore be considered as 'regular use', according to the methodology of NEWMAN and GRIFFIN (1994). However, some sites appeared to be used on many occasions and resting sites in use by the species were found on every visit, indicating that the neotropical river otter was permanently utilising the area.

JENKINS and BURROWS (1980) and MASON and MACDONALD (1986) found a greater number of otter signs on banks with well developed vegetation, whilst SERFASS (1984) and NEWMAN and GRIFFIN (1994) found that the presence of large conifers favored the existence of resting sites. In the present work there was a clear preference by the species for river banks covered by larger vegetation (such as trees), in detriment to those grass-lined banks. This probably occurs as the presence of vegetation gives better protection from rain, disturbance, and other animals.

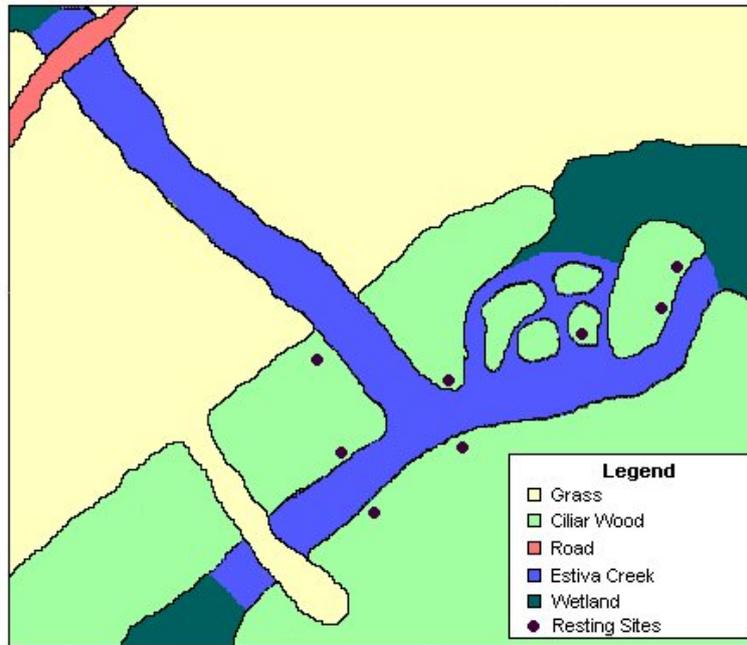


Figure 3: Location of the resting sites used more than once.

The area studied has very low levels of human activity, being mainly concentrated in summer when there is some fishing activity. The only activity that occurs throughout the year is the raising of cattle and sheep. Further, though there is a road close to the creek, the traffic density is low. CHANIN (1985) reports that otters can use resting sites above or below ground, according to the degree of disturbance in the area. All resting sites found in this area were located above ground, which may therefore be related to the low incidence of disturbance.

Most resting sites exhibited only spraints as evidence of river otter use, footprints and claw marks being observed only at some of the sites used more often. Observations of *Lutra longicaudis* couples in captivity (COLARES, 1987) revealed an increase in digging, scratching, and out-of-water activities during the copulation period, however, in the present work, the presence of scratches and footprints was not concentrated in a specific time of the year, and in the same season there were sites with these marks and others only with spraints.

Permanent use of the area, and the lack of signs of reproduction, led us to believe that the species uses this area for feeding and/or as a transit area to other regions used for feeding and/or reproduction. This is a very important area for the study of this species as it is one of the few water bodies that has banks, allowing studies of this nature. Future work is required aiming at the definition of how the species uses the Estiva Creek, as well as locating those areas used by the otters for reproduction, in order to allow the development of a Conservation and Management Plan for the species in the area.

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RESUMEN: Utilization de sitios de descanso y madrigueras por la nutria neotropical (*Lutra longicaudis*) en el sur del estado de Rio Grande do Sul, Sur de Brasil

Este trabajo fue realizado entre marzo de 1997 y febrero de 1998 con el objetivo de verificar la frecuencia de utilización de lugares de descanso por la nutria neotropical (*Lutra longicaudis*). A tal efecto, fueron recorridas durante 8 veces, las márgenes de un arroyo situado en el límite norte de la Estación Ecológica del Taim (RS), en busca de sitios con marcas de utilización del mismo por parte de la especie en estudio (huellas, arañazos, heces, etc). En la primera salida de campo, los lugares encontrados fueron marcados y denominados en relación con alguna característica que permitiese su reidentificación en las otras salidas. Durante el trabajo, trece sitios de descanso no fueron reutilizados y ocho lo fueron al menos una vez. Entre estos, sólo uno fue usado por la especie en todas las salidas. Fueron encontradas heces de nutria en el 90 % de los sitios de descanso, huellas de la especie en un 12 % y arañazos en un 16 %. Todos los sitios reutilizados permanecieron fuera del agua durante todo el transcurso del estudio y sólo uno de ellos se encontraba fuera de la vegetación, habiendo sido construido en un barranco cubierto de pasto. No fue observada ninguna cueva de nutria en el área durante el periodo estudiado. En base a los resultados obtenidos se puede verificar que a pesar de que la especie utiliza este arroyo para actividades de descanso durante todo el año, es posible que no lo utilice para la reproducción.