WWW.IJRPR.COM

International Journal of Research Publication and Reviews

Journal homepage: www.ijrpr.com ISSN 2582-7421

SMOOTH-COATED OTTER LUTROGALE PERSPICILLATA (GEOFFROY SAINT-HILAIRE, 1826) SPOTTED IN CAUVERY RIVER IN TAMIL NADU

Selvaraj selvamurugan*

Translational Health Science and Technology Institute Building (THSTI), Faridabad-121001
Corresponding author E mail: selva199420@yahoo.in

ABSTRACT

In this paper deals with Smooth-coated otter Lutrogale perspicillata (Geoffroy Saint-Hilaire,1826) spotted in andakudi village (Cauvery river) ,Papanasam , kumbakonam Tamil Nadu.

Keywords: *New record, Smooth-coated Otter, Kumbakonam district,*

1. INTRODUCTION

The smooth-coated otter, Lutrogale perspicillata (I. Geoffroy Saint-Hilaire, 1826), is an oriental species ranging eastwards from Iraq through the Sind, Nepal and Assam to Indochina, Malaya and Sumatra (Sivasothi & Nor 1994, Hussain et al. 2008, Koepfli et al. 2008, Khan et al. 2010, Lau et al. 2010). There are 13 species of otters spread all over the world except Antarctica and Australia, and India has three species—Smooth-coated Otter Lutrogale perspicillata, Small-clawed Otter Aonyx cinerea, and the Eurasian Otter Lutra lutra (Johnsingh & Manjrekar 2013; Menon 2014).

Data on the distribution and ecology of many meso carnivores are very limited. Three species of otters exist in India, of which smooth-coated Otter Lutrogale perspicillata is largest. Adapted for a semi-aquatic life, with webbed feet and a strong tapering tail that aids in propulsion (Johnsingh and Manjrekar, 2013). Smooth-coated Otters prey readily on fish, shrimp, crayfish, crab, insects, and vertebrates, such as frog, mudskippers, birds, and rats, form a significant part of their diet (Prater, 1971; Foster-Turley, 1992; Hussain and Choudhury, 1998). Smooth-coated otters are indicators of the health of a wetland ecosystem because they are sensitive to environmental changes (Nawab, 2009). Ample bank side vegetation provides cover and escape and deep soil is needed for digging holes.

The existing populations of the three Indian species of otters and their habitat have never been systematically surveyed. A few estimates are available based on gross habitat assessment, but there seems to have been a rapid decline due to loss of habitat and intensive trapping(Hussain & Choudhury, in press; N. Patel, pers.comm.). Previous work on Indian otters has mostly involved observations on captive animals (Desai, 1974;Acharjyo, 1983) with occasional notes on their occurrence from different parts of the country (e.g. Hinton & Fry, 1923; Pocock, 1939; Chitampalli, 1979) and a few studies on their feeding habits (e.g. Wayre, 1978; Foster- Turly, 1992; Kruuk et al., 1994). Here, we present a new site locality with a few incidental observations of smooth-coated Otters from the running Cauvery River, Andakudi village in Kumbakonam district, Tamilnadu state, India.

2. STUDY AREA

The study area village is on the Thiruvaiyaru to kumbakonam route. It is located near the Cauvery river. Andakudi is a plain in the Cauvery delta. Several endemic birds are found there. Peafowl's, Ashy Prinia, Tawny flanked prinia, red-vented Bulbul, white browed Bulbul, oriental Magpie Robin, Bushchat, munia, mynah etc..,The Smooth-Coated Otters were photo taken from the Cauvery river in andakudi village, Papanasam Taluk, Thanjavur district, Tamilnadu State, India. The species photo taken by afternoon on 25/05/2022.

Figure 1. Smooth coated otter in (Andakudi village) Cauvery river in kumbakonam, Tamilnadu.

The Smooth coated otter -video link (https://indiabiodiversity.org/observation/show/17271328).

Table 1. SCIENTIFIC CLASSIFICATION

Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Carnivora
Family	Mustelidae
Genus	*Lutrogale*
Species	*Lutrogale perspicillata*
Binomial name	*Lutrogale perspicillata* (Geoffroy Saint Hilaire, 1826)

Morphological characteristics:

Lutrogale perspicillata is large, stoutly built, and has short, dark brown velvety fur with a paler underside. The final half of the tail is markedly flattened and the paws are relatively large and webbed, with short, sharp, strong claws. The skull is rounded, with massive teeth and a short muzzle. They are characterized by a shorter, very smooth, sleek ("almost velvety") pelage, the colour of which varies from dark to reddish brown, with the four undersides slightly lighter. Upper lip, cheeks, sides of neck, and throat are whitish or gray. The rhinarium is black and hairless (Krupa et al. 2017).

Role of species in ecosystem: All otters are top predators in the wetland ecosystem and serve as important indicators of healthy aquatic environments (Kruuk 2006).

Distribution and Conservation Status:

The distribution of Smooth-coated Otter is disjunct being distributed throughout southern Asia (Hwang and Larivie're 2005). Of the three subspecies *utrogale perspicillata perspicillata* has a wider distribution and occurs in most of India, Nepal, east to south-western Yunnan, Indo- China, and south to Malaysia, Sumatra, and Java. *L.p. sindica* occurs in Pakistan (Hwang and Lari vie 're 2005) and is also reported from India (Pocock 1941). *L.p. maxwelli*, whose current status is uncertain, is reported from the marshes of southern Iraq (Mason and Macdonald 1986). In India, the Smooth-coated Otter in most of its range is sympatric with the Small-clawed Otter Aonyxcinereus , and sometimes also with the Common Otter *Lutra lutra* (Foster-Turley 1992). The Smooth-coated Otter is under Schedule I I(Part II)of the Indian Wildlife (Protection)Act ,1972 ,and is listed as Vulnerable (VU) by the IUCN and is on Appendix II of the CITES. Once commonly found throughout its distribution range, the species started disappearing from a number of its known distribution locations. Shrinking span of distribution limits the species to the protected areas and these isolated sub-populations are still subjected to further anthropogenic threats like construction of large-scale hydroelectric projects, reclamation of wetlands for settlements and agriculture, reduction in prey biomass, poaching and pollution (Shenoy et al., 2006; Nawab and Gautam, 2008; Hussain, 1999; Nawab, 2007; 2009; Hussain et al., 2008)

3. DISCUSSIONS

Mainly due to habitat loss and over exploitation, the population of smooth–coated otters is declining throughout their range of distribution and the trend of population decline is expected to continue (Hussain et al., 2008). A deficiency of baseline data on the ecology of the species is another constraint for its conservation. Information on habitat selection by otters is further sketchier as compared to other aspects of their ecology (Hussain, 1996). In Europe and North America, many studies on Lutra lutra and Lutra canadensis have led to an increasing understanding of otter habitat preferences in temperate regions (Melisch et al., 1996), whereas in the case of the smooth–coated otter, availability of food, freshwater and shelter for resting, grooming and breeding are the important factors known to govern the process of habitat selection by otters (Mason & Macdonald, 1986; Kruuk, 1995; Anoop & Hussain, 2004; Nawab, 2009).

Through score bulk estimation, fish made up 92% of the overall diet of L. perspicillata along the Johor Straits in Singapore. The results support the observation that *L. perspicillata* is primarily a piscivore (Kruuk et al., 1994; Haque &Vijayan, 1995; Hussain & Choudhury, 1998; Anoop & Hussain, 2005; Sivasothi, 1995; Nawab & Hussain, 2012), which is unique amongst the four otter species in Asia but similar to *Pteronura brasiliensis* in South America and *Hydrictis maculicollis* in Africa (Kruuk, 2006).

Haque and Vijayan (1995) reported 20 –25 individuals of smooth-coated otters in a lake covering 8.5 km2 in Keoladeo National Park, Rajasthan. Sivasothi (1995) while studying smooth-coated otters, sampled a stretch of 10.6 km of the Penang coastline. He found that only about 2 km of the coastline was the core area of otter usage. Ranges of families may overlap (Sivasothi, 1995; Hussain, 1993). Members of different groups may associate with each other at any one foraging trip. If groups are related, tolerance may be exhibited, as the smooth-coated otter is gregarious (Sivasothi, 1995). Sub adults may or may not associate with the group (Sivasothi, 1995). A report of the small-clawed otter in Palao Tekong suggests that sub-adults do associate with parents and the next generation (Sivasothi, 1995).here we report on smooth coat otters at andakudi village, kumbakonam district, Tamilnadu state, India.

Factors affecting distribution:

Of the 172 sampling sites checked, 34% had clay banks, 32°,/0 sandy banks and 28% rocky banks while banks with shoreline vegetation and marsh comprised only 6%. However, most positive sites were found on rocky banks (66%) followed by clay (19%), shoreline vegetation and marsh (11%) and sandy bank (3%). Analysis of the availability of different habitat types and their use by otters in the entire Sanctuary, using Bonferroni confidence intervals, shows that rocky river banks were used more frequently than were available, indicating higher preference, followed by river banks with shoreline vegetation and marsh which were used in proportion to their availability. Clay and sandy banks were largely avoided . During the radiotracking study in zone 4, 78% radiolocations were made on rocky banks followed by banks with shoreline vegetation and marsh (19%), sand (2.58%) and clay (< 1%) (Table 6). These data were also subjected to analysis using the Bonferroni confidence interval technique, which again showed that rocky river banks were used more than their availability, indicating preference (Syed Ainul Hussain et,al.,1995).

Major threats to otter survival in India are loss of wetland habitats, reduction in prey biomass, pollution and poaching. Developmental projects such as dams and barrages, and aquaculture activities have taken their toll on wetlands and consequently on the otters. Other reasons for the decrease in otter populations are poaching for pelts, and illegal dynamite fishing which sometimes kills otters. Being the natural predators of fish they are often the targets of local fishermen.

4. CONCLUSION

This study for assessment of the distribution of Smooth coated Otter revealed that the Cauvery river Andakudi village, kumbakonam, In this area provides an ideal habitat for this rare species of mammal. However, the issues like lack of flooding in monsoon and sufficient natural flow of water regularly result in degradation of the ecosystem. This is aggravated by excessive sedimentation in the pools and ponds in the riverbed, resulting in a lack of sufficient water in the river.. But more serious problem facing the aquatic ecosystem is excessive growth of invasive alien weeds such as Water Hyacinth *Eichornia crassipes* and Ipomoea. Eventually eutrophication results in the decline of otter populations due to reduced food availability. It is therefore recommended that water be released into the river regularly during monsoon; the river should flood sufficiently that it can wash all the sediments and weeds away. There is also a need to educate the farmers to switch over to organic forming and give up the excessive use of chemical fertilizers in the catchment area of the Tungabhadra River, as this encourages eutrophication. All release of industrial effluents and municipal sewage into the river is to be prevented, to provide a safe habitat for riparian biodiversity.

Retaliatory killing of Smooth Coated otter adversely affects the population locally. Strict implementation of the law for species conservation, and educating local residents and fishermen about the importance of this species in the ecosystem is crucial for this isolated remnant population. This initial observation provides an important baseline for further research and evaluation of conservation initiatives.

REFERENCES

[1] Acharjyo, L. N. (1983). A note on the longevity of two species of Indian otters in captivity. J. Bombay. Nat. Hist. Soc., 80, 636.

[2] Anoop KR & Hussain SA (2005) Food and feeding habits of smooth-coated otters (Lutra perspicillata) and their significance to the fish population of Kerala, India. Journal of Zoology London, 266: 15–23.

[3] Chitampalli, M. B. (1979). Miscellaneous notes, 1. On the occurrence of the common otter in Maharashtra (Itiadoh Lake-Bhandara District) with some notes on its habits. J. Bombay Nat. Hist. Soc., 76, 151-152.

[4] Desai, J. H. (1974). Observation on the breeding habits of the Indian smooth-otter Lutra perspicillata in captivity. Int. Zoo Ybk, 14, 123-124.

[5] Foster-Turly, P. (1992). Conservation ecology of sympatric Asian otters Aonyx cinerea and Lutra perspicillata. PhD thesis, University of Florida.

[6] Hinton, A. C. M. and Fry, T. B. (1923). BNHS's mammal survey of India, Burma and Ceylon. J. Bombay Nat: Hist. Soc., 29, 415-428.

[7] Haque N & Vijayan VS (1995) Food habits of the smooth Indian otter Lutra perspicillata in Keoladeo National Park, Bharatpur, Rajasthan (India). Mammalia, 59: 345–348.

[8] Hussain S.A., de Silva P.K. & Mostafa Feeroz M. 2008: Lutrogale perspicillat. IUCN Red List of Threatened Species, Version 2011.1. Downloaded on 05 August 2011. http://www.iucnredlist.org.

[9] Hussain, S.A., Choudhury, B.C. (1998). Feeding ecology of smooth-coated otter Lutraperspicillata in National Chambal Sanctuary. Proceedings of the Symposia of the Zoological Society of London. Behav. Ecol. Riparian Mamm. 71:229-250.

[10] Hussain, S.A. (1999). Otter conservation in India. Envis Bulletin – Wildlife and Protected Areas. 2: 92-97.

[11] Johnsingh, A.J.T., Manjrekar, N. (2013). Mammals of South Asia,Vol. I. University Press, India.

[12] Khan W.A., Qasim M., Ahmad E., Chaudhry A.A., Bhaagat H.B. & Akhtar M. 2010: Status of smooth coated otter (Lutrogale perspicillata sindica) in Pakistan. Pak. J. Zool. 42: 817–824.

[13] Koepfli K.-P., Kanchanasaka B., Sasaki H., Jacques H., Louie K.D.Y., Hoai T., Dang N.X., Geffen E., Gutleb A., Han S.-Y., Heggberget T.M., LaFontaine L., Lee H., Melisch R., Ruiz-Olmo J., Santos-Reis M., Sidorovich V.E., Stubbe M. & Wayne R.K. 2008: Establishing the foundation for an applied molecular taxonomy of otters in Southeast Asia. Conserv. Genet. 9: 1589–1604.

[14] Kruuk H (2006) Otters: ecology, behaviour and conservation. Oxford Biology, Oxford, 280pp. Shenoy, K., Verma, S., Prasad, K.V.D. (2006). Factor determining habitat choice of Smooth-coated otter, Lutra perspicillata in a South Indian river system. Curr. Sci. 19, 637-643.

[15] Kruuk H, Kanchanasaka B, O' Sullivan S & Wanghongsa S (1994) Niche separation in three sympatric otters, Lutra perspicillata, L. lutra and Aonyx cinerea in Huai Kha Khaeng, Thailand. Biological Conservation, 69: 115–120.

[16] Lau M.W., Fellowes J.R. & Chan B.P.L. 2010: Carnivores (Mammalia: Carnivora) in South China: a status review with notes on the commercial trade. Mammal Rev. 40: 247–292.

[17] Menon, V. (2014). Indian Mammals: A Field Guide. Hachette Book Publishing India Pvt. Ltd. 528pp.

[18] Sivasothi N (1995) A review of otters (Carnivora: Mustelidae: Lutrinae) in Singapore and Malaysia, and the diet of the smooth otter (Lutrogale perspicillata) in Penang, West Malaysia. Unpublished MSc hesis, National University of Singapore, Singapore.

[19] Nawab A & Hussain SA (2012) Prey selection by smooth-coated otter (Lutrogale perspicillata) in response to the variation in fish abundance in Upper Gangetic Plains, India. Mammalia, 76(2012): 57–65.

[20] Nawab, A., Gautam, P. (2008). Living on the edge: Otters in developing India. In Wetlands – The Heart of Asia. Proc. Asian Wetland Symp., Hanoi, Vietnam.

[21] Prater, S.H.(1971). The book of Indian animals. 3rd edition. Mumbai: BNHS-OUP.

[22] Pocock, R. I. (1939). Notes on some British Indian otters with description of two new species. J. Bombay Nat. Hist. Soc., 41, 514-518.

[23] Sivasothi N. & Nor B.H.M. 1994: A review of otters (Carnivora: Mustelidae: Lutrinae) in Malaysia and Singapore. Hydrobiologia 285: 151–170.