

Status and Distribution of the Hairy nosed Otter (*Lutra sumatrana*) in Thailand

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Abstract

The study on the status and distribution of the hairy nosed otter was undertaken in Toa Daeng Peat swamp forest and 3 other wetlands in the southern part of Thailand from October 2001-May 2004. Survey was conducted by identifying the tracks, spraints, the carcasses of the hairy nosed otter and direct observation. Camera trappings were done to confirm the results. The habitat utilization as well as the conflict between otters and man in different parts of the wetland was observed. The results showed that the hairy nosed otter in Thailand exist not only in Toa Daeng Peat swamp forest in Narathiwat province but also in Khao Banthad wildlife Reserve in Trang Province in the upper south of Thailand. Those two areas are different in habitat types. Toa Daeng Swamp Forest is in the flat plain but Khao Banthad Wildlife Reserve is a mountainous area. The study showed that the hairy nosed could inhabit the swampy area in the flat plain and in the upstream river. However the population in the flat plain is isolated because the swamp forest are fragmented by human activity such as development projects, farms and houses etc. In both sites the hairy nosed otter shared the habitat with the small clawed otter. Scats were analyzed to compare the feeding habit of the two co-existing otters in this area.

Key word: Hairy nosed otter, Status, Distribution

Introduction

Four of five species of otters that occur in Asia are found in Thailand (Lekagul and McNeely, 1977). They are the smooth coated otter (*Lutra perspicillata*), the Eurasian otter (*Lutra lutra*), the hairy nosed otter (*Lutra sumatrana*) and the small clawed otter (*Amblonyx cinereus*).

The small clawed otter, the smallest otter in the world, is distributed in almost all over the country except in the north east. The smooth coated otters are reported in wetlands throughout the country. Their main habitats are the rivers and along the seashore or in the reservoirs above the dam.

The Eurasian otter that has a wide distribution throughout Asia and Europe are found in the rivers and lakes in the northern and western part of the country. The hairy nosed otters are an endemic species in South East Asia and their distribution is confined to the southern part of Thailand.

Otters once abundant in all wetlands, waterways and along the seashore in Thailand have disappeared rapidly and are not common. Before 1975, otters were heavily hunted for their valuable pelts and these were exported in large quantities. Many naturalists were concerned of their status and stimulated the government to stop the export and protected the population in the wild. In 1989 all four otter species were officially declared as protected wild animals by the Wild Animals Reservation and Protection Act. BE 2503.

Since there were no sightings of the hairy nosed otter in Thailand for a long period, it was considered as an endangered species at the meeting of Thailand 's Biological Diversity Management in 1996. They were categorized as 'insufficiently known' by IUCN in 1988. Scientific investigations are urgently needed to evaluate their status since they were considered to be a race of *Lutra lutra* (Foster Turley, et al. 1990). Therefore, the rediscovery of three juvenile hairy nosed otters in Thailand is extremely useful to confirm the characteristics of the hairy nosed otter. The objectives of the present study are as follows.

Objective

1. To study the status of hairy nosed otter and its distribution in Thailand.
2. To study the habitat utilization of the hairy nosed otter.
3. To study their food habits and compare with the sympatric species in the same habitat.

Method

Three study sites in southern Thailand were surveyed to study the status of hairy nosed otter. One study site was a freshwater swamp and the other two were in the mountain area. Observations on the shape and size of tracks and spraint sites and also camera trapping were used to study the status of hairy nosed otter in these three areas. Observations were also made on their habitats.

The distribution of the hairy nosed otter, both inside and outside the protected areas was studied. For example, the protected wetland in Chalerm Prakiet Wildlife Reserve or Toa Daeng Peat Swamp Forest and the melaleuca forest near by this reserve were surveyed. Tracks and scat of the otters were identified and these activities were analyzed. Camera trapping was used to confirm those signs. Location and habitat type were recorded whenever otter signs were observed. Their habitat

utilization was investigated, and the interactions with other otter species, other animals and man were recorded.

Spraint sites of the hairy nosed otter and the small clawed otter were visited frequently. One hundred and twenty two samples of spraints of the hairy nosed otter and 70 spraint samples of the small clawed otter were collected during March to November 2000. Spraints compositions were analyzed. Diet composition of the two otters are presented by bulk percentages; that is a number was assigned to indicate the importance of a particular item of food in a spraint. The prey items were separated and scored visually by volume. The total score for all items in each scat was considered as 100. (Wise et al. 1980)

Results and Discussion

Distribution

The study on the distribution of the hairy nosed otter in Thailand was undertaken in their range. According to Lekagal and McNeely (1997), only a few records of otter were found in southern Thailand. One old specimen in Science Museum in Bangkok was reported from Mae Kong river in the west. However, during the survey in 1998 in the western forest complex no signs were found although three species of otter, *A. cinereus*, *L. perspicillata* and *L. lutra* are found there. (Kanchanasaka, 1997).

The first rediscovery of the hairy nosed otter was in 1999 in the peat swamp forest in Narathiwat province, southern Thailand. Many subsequent efforts in the swamp area were made to ascertain its status and distribution. Results showed that the hairy nosed otter inhabits the wetlands both inside and outside the protected area. Their population is scattered in the melaluca forest and the evergreen forest, and their signs were also found closed to the river mouth of Bang Nara River. They are not very rare in Toa Daeng Peat swamp forest, but in other areas, they are quite rare and their status is unknown. In 1984, before the construction of Chew Lan Dam, Seub Nakastrien reported the presence of hairy nosed otter in Khao Sok National Park and Khlong Saeng Wildlife Sanctuary. An old specimen of the hairy nosed otter was exhibited in Khao Sok visitor center. Inquiry by Khao Sok officer showed an uncertain source but that the specimen could have come from the park. However, during the survey conducted in 2001-2002 along the reservoir and the stream in both reserves by camera trapping, no evidence was found of hairy nosed otter. However, the smooth coated otter and the small clawed otter were found to be distributed in both reserves. The smooth coated otter utilized the reservoir and the big tributaries or the mouth of the tributaries more than the small tributaries. Most of the small clawed otter signs were found in the tributaries. The constructions of dam in 1987 changed the waterways and the riverine habitat and the hairy nosed otter would have become rare.

A skull of the hairy nosed otters was found in Khlong Lam Long, in Khao Banthad wildlife reserve, south of Thailand. It was found in a fish trap in one of the tributaries of Khlong Lam Long. Tracks of the hairy nosed otters and small clawed otters were found along the tributaries and the main stream. This stream is in the evergreen forest and is the main canal in this reserve. It passes through the mountain area and is characterized by rocky and sandy bank along the shallow water body, approximately 10-15 m in width, with some deep areas.

Nong Prag Praya wetland in Satun Province was supposed to be the third site of the hairy nosed otter, It is the fresh water swamp. An otter similar to the hairy nosed otter was seen near a pond. However, many attempts should be continued to confirm their status. Although photo traps were set to confirm their status there were no positive pictures.

Habitat Utilization

The hairy nosed otter seems to utilize many types of habitat. In Toa Daeng Peat Swamp Forest of Narathiwat Province, they were recorded in the secondary forest or melaleuca forest, which is dominated by only *Melaleuca cajaputi* and the primary peat swamp forest, which is characterized by evergreen forest. However, the otter was confined to the main canals; Khlong Suhai Padee and Khlong Toa Daeng . Those canals pass through the Melaleuca forest, the field and peat swamp forest, and were connected to Bang Nara River. The population outside the wildlife reserve is in the melaleuca forest where some parts are large and some are fragmented into small patches scattered in the orchard or nearby village. Their signs were also found along Khlong Bang Nara, the main river in Narathiwat province. During wet season, their populations were scattered in the forest, but in the dry season they seemed to dominate in the canal or pond nearby the forest.

The study showed that the two species of otter, the hairy nosed otter and the small clawed otter coexist in this area. However, the more records of the small clawed otter tracks in the field than in the forest showed that they utilized the field more than the melaleuca forest. Their scat were also found in the peat swamp forest as well as in the rice field.

Opposite to the hairy nosed otter, direct observation and observation of tracks and signs indicate that they utilize the melaleuca forest and peat swamp forest more than the field. The study also indicated that both otter species share the same toilet sites in the melaleuca forest.

The presence of the hairy nosed otter's skull in a stream in southern part of Khao Banthad wildlife reserve showed that the hairy nosed otters not only utilized the freshwater swamp in the flat plain, but also in the riverine habitat in the mountainous areas. The presence of tracks and scats of the small clawed otter in the same stream indicated that these two species, could share the same habitat.

However, little information is available about these sympatric species in this area and therefore further studies would be continued on this aspect.

Some Ecological Information

Since both small clawed otter and the hairy nosed otter occur in the peat swamp forest, their prey items overlap. Otter spraints were collected in this area with caution on identification by spraint site together with spraint type and footprints. They were analyzed and results showed that the spraints of the hairy nosed otter contained mainly fish remains (80.1%) with remains of snakes, crabs and frogs coming second, third and fourth, respectively (13.3%, 3.2% and 3%). In the spraints of small clawed otter, crab remains were the most common (52.2%) while snail, fish and snake remains were next in common in that order (17.6%, 9.8% and 8.2%). The remains of shrimp were also found in the small clawed otter spraints and lizard, rat and insect remains were found in small amounts in the scats of both species. Scat analysis indicated that the hairy nosed otter specialized on fish while the small clawed otter specialized on crabs. Kruuk et al (1994) also found that the smooth coated otter's spraints contained primarily fish remains while the common otter spraints contained amphibian or crab remains as much as fish and the small clawed otter's spraints contained mainly crabs.

Table 1 Occurrence of different prey categories in *L. sumatrana* and *Amblonyx cinereus* spraints

Prey item	Bulk percentage of prey remain in	
	<i>L. sumatrana</i>	<i>Amblonyx cinereus</i>
Fish	80.10	9.80
Snake	13.30	8.20
Crabs	3.20	52.20
Frog	3.00	-
Rat	0.03	0.10
Lizard	0.07	5.90
Shrimp	0.00	2.70
Snail	0.00	17.60
Other	0.00	3.50

The study by camera trapping and direct observation indicate that the hairy nosed otters are active all day. Frequency of photographs taken during daytime and in the night were nearly the same (11 times by day and 8 times in the night, N=19). During the daytime, they often spend their time on feeding or doing other activities in the forest. They visit the ponds or canals or open areas in the evening or at night. During the dry season where parts of melaleuca forest and peat swamp forest dry up, otters would concentrate in the pond, the canal and the remaining wet areas in the forest.

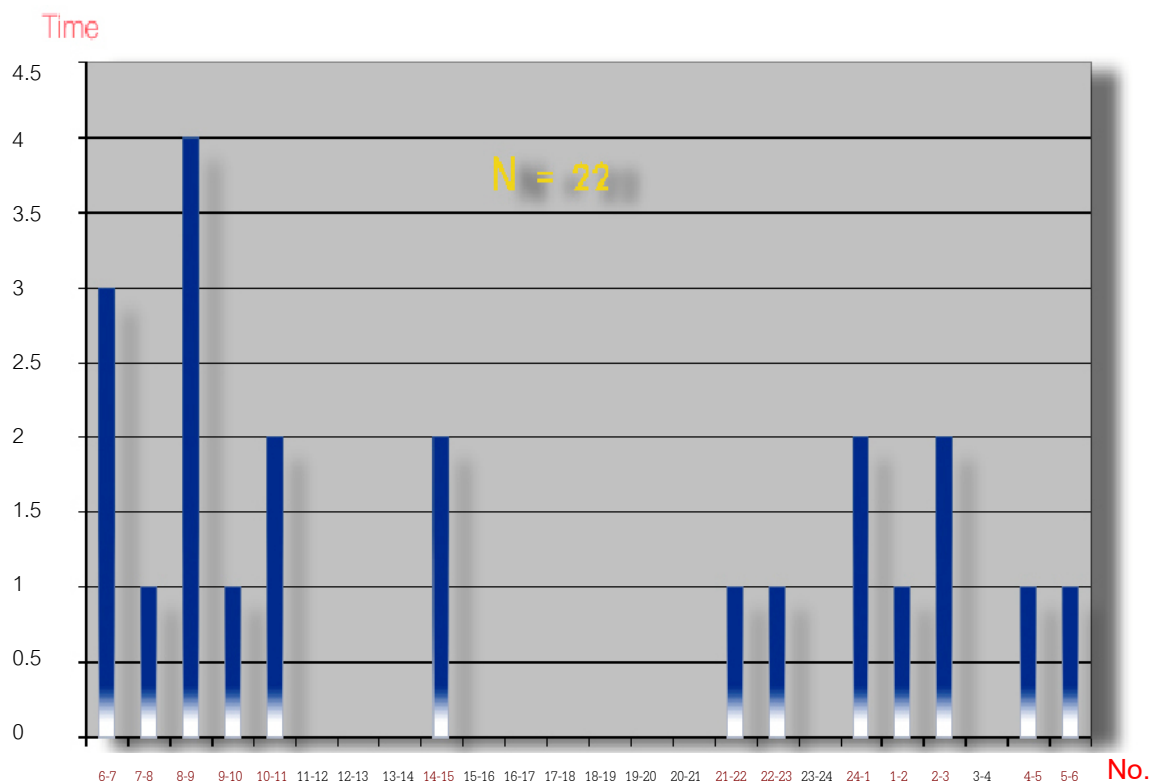


Figure 1 Activity of the hairy-nosed otter during 24 hours

Little is known about the ecology and biology of the hairy nosed otters in the past. As reported (Mason and Macdonald, 1986) in *Lutra* spp, the gestation period was around two months. In Toa Daeng peat swamp forest, the cubs were seen in December to February after the heavy rains and floods in October to November. An old 'couch' that was similar to a bird's nest was found among the tall grass in melaleuca forest in February. The cubs are quite distinct from the cubs of other *Lutra* species with dark brown coat in males and slightly light brown in females with white upper and lower lips. Both sexes have brown dorsal surface same as the ventral surface. The white throat does not extend down to the breast and belly as in *L. perspicillata* and *L. lutra*. One family in fragmented patch

of melaleuca forest in the coconut plantation composed of a male and a female with one cub. However, there is no information about the otter population in the big forest patch except that about 1-3 otters were often seen near the canal and along the forest edge in the evening. This study should be continued to establish the sex and age composition as well as other behavior patterns of the otters in this area.

Threats and conservation measures

The hairy nosed otters are listed in the endangered species list in Thailand and in the national protected animal list. However, the enforcement of this conservation law is not strong enough and therefore their existence remains threatened in the country.

Occasional hunting of otters still takes place in many wetlands. In Toa Daeng Peat Swamp Forest, many of the hairy nosed otters and the small clawed otters get killed when they are caught in fishing traps. The conflict between otter and man occurs frequently, especially in the dry season.

Otter conservation campaign was carried out in Narathiwat province, Southern Thailand in October 2001. Local people from a few villages nearby the swamp were invited to attend the workshop. Some of them had never seen otters before. In order to strengthen the awareness in wildlife and natural resources conservation and particularly to decrease the conflict between otters and man, such campaigns should be conducted frequently in all villages around the peat swamp forest.

The over-exploitation of natural resources, especially the forest in the wetland, for decades has resulted in the reduction of peat swamp forest. The total area of peat swamp in Thailand currently is 64,555 ha, of which 48% is found in Narathiwat province along the east coast of Thai peninsula near the Malaysian border. The secondary forest covers mostly the remaining peat swamp area (85%). Almost all extensive primary peat swamp forest is restricted to Toa Daeng peat swamp forest (Nuyim, 1999). Once peat swamp dries up by the over drainage of water from inside peat swamp areas, forest fire breaks out frequently. Moreover, deforestation and intrusion of human community also cause the loss of peat swamp. Many managers, who tried to develop peat swamp forest for other purposes learnt a good lesson from the big fire in the forest. The public got to know the value of the primary peat swamp forest with its high biological diversity. Some parts of Toa Daeng peat swamp forest are protected and categorized as wildlife sanctuary. However, some parts of the secondary forest or melaleuca forest, where the hairy nosed otter inhabits, are outside the protected area. Some parts belong to the private and other organizations. Those otter populations outside the protected area are subjected to deforestation, land reclamation and development of canal for agriculture purposes. All stakeholders should be aware of this conservation issue. Wildlife conservation should be given priority when planning land use in the secondary peat swamp forest.

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