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# The Time is Now: Survival of the Douc Langurs of Son Tra, Vietnam

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**Abstract:** Red-shanked douc langur (*Pygathrix nemaeus*) groups were located in the Son Tra Nature Reserve, Da Nang, Vietnam, and two preliminary censuses were undertaken in December 2006 and April 2007. Several teams located and counted Douc Langur groups by direct observation. Large numbers of groups with multiple members were located at various sites in the nature reserve. These findings are highly significant because reports over the last several years have recorded low numbers of Douc groups, and some have predicted an entire loss of doucs in Son Tra Nature Reserve. The numbers of Douc groups and individuals is also very significant since they may represent at least 60% of all of the living red shank Douc Langurs in Vietnam.

**Key words:** Douc Langur, Vietnam, endangered primate, survey

## Introduction

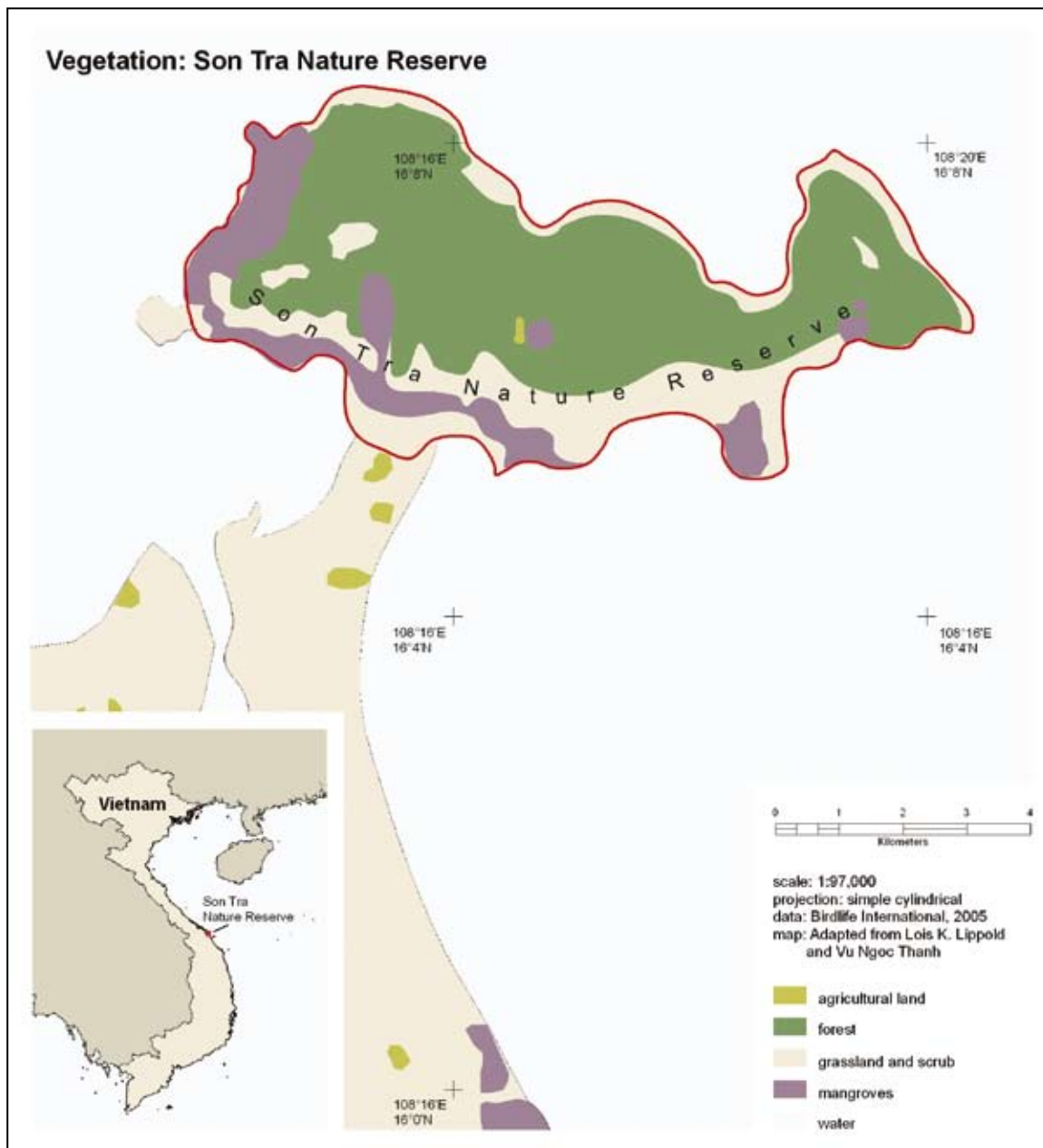
Red-shanked douc langur (*Pygathrix nemaeus*) groups were observed and counted by direct observation during two field seasons in 2006 and 2007 in Son Tra Nature Reserve, Da Nang, Vietnam. The red-shanked douc is the northern variant of douc langur and is characterized by red lower legs, a light yellow face, and white forearms. In Vietnam, the present range of the red-shanked douc langur occurs between 18°29'N and 14°21'N (Lippold 1977, 1995, 1998; Lippold and Vu 1996, in prep.). By any and all measures, this monkey is rare and considered endangered by all international conservation organizations. It is listed as Endangered on the IUCN Red List (IUCN 2007) and is also on Appendix 1 of CITES and in Vietnam's Red Data Book (Anon. 2000). Recent research has revealed that the red-shanked douc is now locally extinct in areas where it was reported just 10 years ago (Lippold and Vu in prep.).

Son Tra Nature Reserve (Fig. 1) is on the Son Tra peninsula (16°06'–16°09'N, 108°13'–108°21'E). It is 10 km from the center of Da Nang City, the third largest city in Vietnam. Da Nang was the location of a major American presence during the Vietnam war. During that time, Son Tra (elevation 696 m) was called Monkey Mountain on military maps and was the location of a primary radar installation. The red-shanked douc langur was first recorded on Son Tra during those years by American service personnel (Van Peenan

1969; Van Peenan *et al.* 1971; Gotchfield 1974), and were the subject of a short study there by the first author in 1974 (Lippold 1977). After the war, intermittent reports (MacKinnon and MacKinnon 1986; A. Eudey pers comm. 1988) indicated that the doucs of Son Tra were extinct. However, more recent studies on Son Tra during the 1990s carried out by Nhat (1993), Lippold (1995, 1998) and Anh (1997) reported that small numbers of red-shanked douc langurs groups could still be found on Son Tra.

The Son Tra Nature Reserve (Fig. 1) was established in 1977 by decision number 41 by the Prime Minister and then upgraded from a cultural and historical site to a Nature Reserve in 1992 by the Ministry of Agriculture and Rural Development because of the presence of the red-shanked douc langur. The nature reserve has a total of 4,439 ha, of which 4,190 are forested. Some of the forest is considered primary, while in other areas it is secondary. Reforestation projects are underway over 249 ha where the forest has been cleared or highly modified (T. D. Phan pers. comm. 2007). Studies by Van Peenan *et al.* (1971) and Lippold (1977) during the Vietnam war, and later Lippold (1995, 1998) and Anh (1997), revealed a rich and varied fauna and flora, with records of at least 985 plants of 143 families, 36 mammals of 18 families, 106 birds of 34 families, 23 reptiles of 12 families, 9 amphibians of 4 families, and 113 insects of 26 families.

Recent reports of a precipitous decline or complete extinction of the douc langur population in Son Tra Nature



**Figure 1.** Location of Son Tra Nature Reserve in relation to Vietnam and differentiation of vegetation types (from Birdlife International 2005). Map Conservation International—Leanne Miller.

Reserve (D. T. Phan and M. V. Nguyen pers. comm. 2006), coupled with the recent intensification all kinds of development approaching, and potentially engulfing, the Son Tra peninsula, prompted two surveys to substantiate the permanence of doucs there and assess their conservation status.

## Methods

Members of the reserve staff provided specific and accurate information concerning the best survey locations to observe douc groups as well as other primates such as macaques and lorises. Local guides, who had previously been hunters on Son Tra, along with members of the reserve staff accompanied our teams. Due to time and financial constraints this was not a random survey. Field surveys took place over two one-week periods (22–29 December 2006 and 10–17 April 2007) in specific forested areas of Son Tra Nature Reserve, based on locations identified by reserve staff and local guides. Three separate areas were surveyed by teams made up of a guide, one or two researchers, and at least one reserve staff member. Existing trails were used. Once located, the doucs were watched, counted, and differentiated by sex and age. Age and sex of doucs was based on criteria outlined by Lippold (1977). Daylight surveys started around 07:00 and finished at 18:00. Field results were compared each night. During field surveys doucs were identified, their location recorded using GPS receivers, and the locations were mapped. Photographs were taken when possible.

## Results

Twelve groups of red-shanked douc langurs were located and observed in a number of locations (Table 1). Groups did not immediately flee as they usually do in areas where they are heavily hunted; instead they remained resting or feeding half an hour or more, allowing us to obtain information on the age-sex composition (Lippold 1977). Most groups contained very small infants and we observed one group with an infant that appeared to have been born during the preceding night. The infant slept in its mother's lap for more than half an hour while she watched us attentively. Ten of the twelve groups had infants and juveniles; a very hopeful indication of population maintenance and growth. The twelve douc groups identified contained at least 171 individuals (Table 1). The smallest group contained six individuals and the largest 24. Since these animals were observed for relatively short periods, it is quite probable that group sizes were underestimated. The ratio of males to females is about 1:2.

Based on these preliminary counts and the area of Son Tra, it is evident that the density of douc langurs is high. In fact, they appear to be the most abundant primate in the nature reserve. The total population of doucs that we were able to record would probably be larger if we had been able to survey the entire area. However, this survey was preliminary, and as a result of the very significant findings; further surveys have

**Table 1.** Son Tra red-shanked douc langurs (*Pygathrix nemaeus*): group sizes, age and sex composition.

Group	No. of individuals	Males	Females	Juveniles	Infants
1	11	3	6	1	1
2	11	2	7	1	1
3	6	3	3	0	0
4	12	4	5	2	1
5	14	4	7	1	2
6	6	2	4	0	0
7	24	7	14	1	2
8	19	5	11	2	1
9	12	3	6	1	2
10	21	6	12	2	1
11	16	5	9	1	1
12	19	6	9	2	2

been scheduled to assess the douc population more thoroughly throughout the reserve.

Doucs were seen most frequently in the tall trees of the high canopy of Son Tra's primary forest. These forests contain tall 40-meter emergents such as *Parashorea stellata*, *Polyalthia* sp. and *Syzygium* sp. and cover approximately one-third of the Son Tra peninsula. Many other primates were seen in the reserve, including the rhesus macaque (*Macaca mulatta*), the stump-tailed macaque (*Macaca arctoides*), long-tailed or crab-eating macaque (*Macaca fascicularis*), and the pygmy loris (*Nycticebus pygmaeus*). Traps and snares of various kinds were observed in all parts of the reserve. Many traps were constructed along the trails, but they were also set at the base of the douc langur's fruit-feeding trees. Doucs were seen to come to the ground to gather fruit and might have been trapped in these snares if they had not been removed. We disassembled and broke all the snares and traps that we found. Any animals alive in the traps were released. One infant rhesus macaque was found alive in a trap with a wire noose around its neck. Its mother was close by and calling to the infant. The infant was photographed and immediately released to its mother. She bravely came from her hiding place, scooped up the infant and ran into the trees.

## Discussion

The good news is that this was a very successful set of surveys. They substantiated not only the presence of red shanked douc langurs at Son Tra Nature Reserve but also that large numbers of groups with multiple members were present in several areas. The population appeared to be healthy with some groups numbering over twenty members. We are certain that several more groups will be located in future surveys. In these two short surveys we found more animals than had been seen in several months of surveys in other locations (Lippold and Vu in prep.); suggestive of a very high density of doucs in the fairly restricted area of Son Tra Nature Reserve.

One of the historical problems for Son Tra has been its status as a military installation. Because of this, many animals were shot by the military in target practice. Certainly this was the case during the American presence. This situation apparently continued after the war when the Vietnamese military took over the radar installation. However, this practice has been curtailed, if not entirely stopped, as a result of the active management of the forest by ranger staff of Son Tra Nature Reserve. Son Tra was demarcated as special-use forest in 1977, and was then elevated to nature reserve status in 1992. At that time, a small reserve staff was installed in a headquarters at the base of Mt. Son Tra on the only road leading up to the military installation on the southwestern side of the peninsula.

According to the director and rangers of the nature reserve, illegal hunting and trapping is currently the major threat to all of the animals of Son Tra. The number of guns has been reduced over the years by governmental decree and recent confiscations of firearms from local residents of Da Nang. However, traps of every type were found along the trails, at the base of trees, along streams and in all areas of the reserve. We found large numbers of noose snares set for terrestrial mammals, such as deer, muntjac, porcupine and wild pig, but some were also built and placed to catch primates. Several traps were found at the base of fruiting and flowering trees where doucs were observed to come to the ground to gather fruits. Certainly primates coming to the ground to collect the fruit would be caught. In some areas it was impossible to move around without walking into a snare. All of this activity is illegal, but the duties of the small staff do not allow time for them to search for and dismantle traps. This is certainly one area where additional funding for a snare collection patrol could directly influence the survival of many of the forest animals, including doucs.

Collection of firewood for production of charcoal and non-timber forest products such as resins, palm leaves, cycad, and rattan are common activities in the reserve. Resin is collected from one of the doucs' favorite feeding trees, *Parashorea*. Large holes are gouged in the bark at the base of the tree causing the tree to bleed resin. Over time this activity supports the destructive activity of termites and weakens the trees so that they eventually succumb to strong winds and the occasional typhoons that are characteristic of Son Tra. A strong typhoon in 2007 (D. T. Phan pers. comm. 2007) devastated the eastern side of Son Tra and destroyed large numbers of trees that had been weakened by resin collecting.

Compounding the many challenges for Son Tra is the fact that it has been slated for development by the People's Committee of Da Nang expressly because of its beautiful beaches and its potential for tourism. A massive construction program is underway that will link the reserve to Da Nang City by way of a huge new bridge. At least eight new roads are being built, most leading to the beaches and all of which cut forested areas, producing isolated fragments. Characteristic of road building in Vietnam, the construction crews live along the road they are building. They utilize the adjacent forests;

hunting for meat to supplement their rice diets. There is no question that many of Son Tra's animals have been lost due to this type of hunting activity.

Roads are built to entice resort construction on Son Tra's spectacular beaches. One hotel and several small restaurants have already sprung up on the southern shore of Son Tra which joins China Beach, a famous R&R (rest and relaxation) area during the Vietnam War, and prime beach area for both local and foreign tourism. This is not a good sign since it is common at other parks in Vietnam for endangered animals of the nearby forest to appear on the menu of restaurants of resorts and hotels that are in close proximity or within buffer zones of national parks (T. N. Vu pers. obs.; U. Streicher and T. Nadler pers. comm. 2007). Future development plans also include villas and holiday homes in prime locations overlooking the beach. Development plans even include a rescue center for primates with eventual release of rehabilitated primates onto Son Tra (T. Nadler pers. comm. 2007).

The policy of Vietnam is for tourist companies to purchase rights to bring tourists to a specific location. The People's Committee, the governing body of all cities or towns, grants the right for purchase to the tourist company. The proceeds from tourism are then divided between the tourist company and the People's Committee of Da Nang. No money from tourism goes to the Forest Protection Department at either city or reserve level, yet the Forest Protection Department is mandated to protect the forest. The more tourists that come to the nature reserve, the more money there is to divide, so it is in the best interests of the tourist companies to bring as many tourists as possible. The problems of unregulated tourism are many. At the moment, tourist companies can take tourists to the reserve from 07:00 until 22:30, with no supervision of the tourists' behavior. Tourist vans speed up and down roads directly affecting wildlife that might attempt to cross from one isolated forest area to another. Tourists are allowed to hike inside the forest completely unsupervised. They picnic along the streams leaving all their garbage, and often fouling the streams. Tourists leave human waste all over the forest and they chase and sometimes capture and kill wildlife. There have even been some reports of prostitution in this relatively secluded area (D. T. Phan pers. comm. 2007).

The situation and problems of Son Tra are not unique to Vietnam. Beautiful places with nice beaches and wild places always seem to be "discovered" then turned into high density "wild places" with tourist accommodation owned or administered by foreign corporations and priced completely out of the reach of the local residents. There are many examples world wide such as Montezuma in Costa Rica, The Grand Tetons, and Yellowstone National Park, Wyoming, USA (Lippold, field notes). It is always the wildlife that suffers—confined to smaller and smaller habitats so that human development can prosper from the wild. In Vietnam, the traditional method of enjoying the wild consists of bringing a group to the forest, having a picnic or staying for a weekend, staying up late, playing a boom box at top volume and leaving trash and garbage everywhere.

In Vietnam, wild animals are food, and on most occasions Vietnamese talking to the survey members would not ask about the doucs' behavior or characteristics in the wild but how they taste or how to cook them. Visitors understand why we would want to collect animals to eat but not why we would observe, count and conserve these beautiful primates. Primates are hunted for food or medicinal purposes and it is a common occurrence to find them in bottles in alcohol, not as zoological specimens but as tonics for their medicinal value or for sipping as monkey wine. Restaurants in the area often display many bottles containing various animals prepared with alcohol as wine, to be consumed after the meal, as a tonic for a medical condition or as an all purpose tonic.

Son Tra presents a microcosm of the challenges facing conservation in Vietnam today. Competing interests must be balanced for the benefit of both humans and wildlife. On Son Tra, the continued existence of the douc langur, a spectacular primate that has survived subsistence hunting, wars, defoliation and development, hangs in the balance. Whether they survive to be appreciated by future generations of Vietnamese and the world depends on our ability to balance these competing interests... now.

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