

Summary of Research by Cambodian Turtle Conservation Project
Phnom Penh, November 2004
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Introduction:

The BP funded Cambodian Turtle Conservation Project (CTCP) is conducting a research project in the Central Cardamom Mountains of Southeast Cambodia. The region is considered to be one of the most highly diverse regions for biodiversity in Cambodia. Surveys led by Fauna and Flora International in 2000 recorded up to 7 turtle species, 1 crocodilian, 23 lizards and 34 snakes. Likewise, baseline biodiversity surveys led by Conservation International in 2002 concluded that the region has high priority in conservation significance and found that many species of tortoise and turtle may be present in the target area. They found that viable populations of globally threatened reptiles appeared to survive in the wild, many of which have been extirpated elsewhere in Indochina. These previous surveys showed that there should be more research to find out exactly how many species of turtles are living there.

Our project aims to assess the status of tortoise and freshwater turtle species, identify critical habitats, and identify current threats and conservation priorities.

Survey areas:

BP team, with three core members, has conducted turtle and tortoise searches in some different places in Central Cardamoms Protected Forest (CCPF). At the beginning of the project, March and April 2004, we also did a community survey to find out the population distribution, the current threats, and conservation priority of tortoises and freshwater turtles in the areas. We used photo sheets of tortoises and turtles to show people and ask some questions about turtles. We have finished 4 researches in different habitats in and around CCPF. A fifth trip is planned to be carried out in early December. To find out the turtle distribution in the areas, we chose three different methods including **interviews** using photo sheets of turtles and tortoises, **trappings** using traps and baits and **timed searches** using a stopwatch and hunting dogs and BP team members with local guide.

In April 2004: We did turtle trapping in Areng valley in the South of CCPF.

In August-September 2004: We did turtle trapping and timed searches in down stream Areng valley.

In September-October 2004: We did tortoise timed searches in the mountains from the East to the Northwestern of CCPF.

In October-November 2004: We did turtle trapping and tortoise timed searches in Veal Veng marsh in the North of CCPF.

In December 2004: We have a plan going to the field again by using baited traps and timed searches in the North of O'som, Pursat province.



Traps location in Areng valley,
BP team, August 2004

Results:

Community surveys:

The interviews found that most local people are entirely reliant on natural resources such as resin extraction, fishing and chamkar (non-intensive agriculture). Hunting does not actively happen in the areas because it is prohibited in the Central Cardamoms Protected Forest. Also, we found that the villagers say there are fewer tortoises and turtles in the survey areas now than compared to the last few decades (1980s and 1990s).

Villagers looked at photographs of different tortoise and turtle species and told us that up to nine tortoise and turtle species used to be found in the area. Some species are apparently still there, but some have disappeared or are only rarely found or in remote places. They said there are still a lot of Asiatic softshell turtles (*Amyda cartilaginea*; Vulnerable – IUCN, 2004), Asian leaf turtles (*Cyclemys dentata* complex; Near Threatened), Elongated tortoises (*Indotestudo elongata*; Endangered), and Malayan snail-eating turtles (*Malayemys subtrijuga*; Vulnerable). They also said they had never seen some species, such as Madagascan spider tortoises (a species that we added to test villagers), Impressed tortoises, Asian giant tortoises, and Big-headed turtles.

During the community surveys we also found five live juvenile Asiatic softshell turtles that villagers had caught and were keeping in their houses, either for food or to sell. In addition, we found six shells in the villages: two were shells of the Elongated tortoise, two were the Giant Asian pond turtle and two were the Asian leaf turtle. We took photos of all of them and were given some of the shells, which were identified to the species level by Doug Hendrie (WCS Asia Turtle Conservation).

We also found some live and dead of species of turtles and tortoises in the villages where we did interviews during our survey each time. We found a lot of shells of impressed tortoises, elongated tortoises, Giant Asian pond turtles, Asian leaf turtles, Asian box turtles. (See: table below)

Trappings:

We put traps both in moving water (rivers, streams) and still water (lakes, ponds). We caught two different species of turtles in different places- *Cyclemys dentata* complex and *Amyda cartilaginea*. (See: table below)



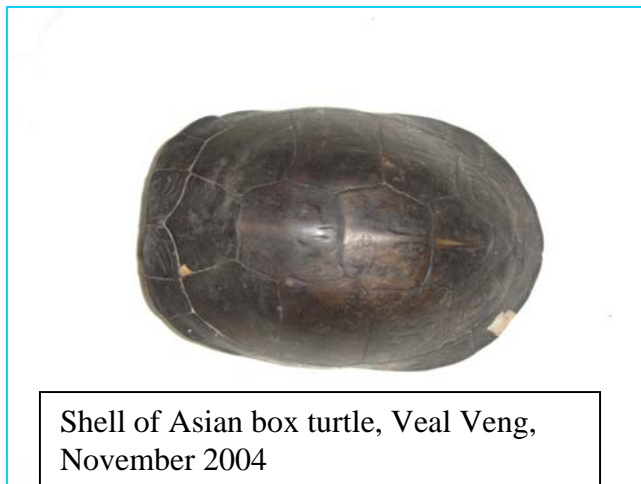
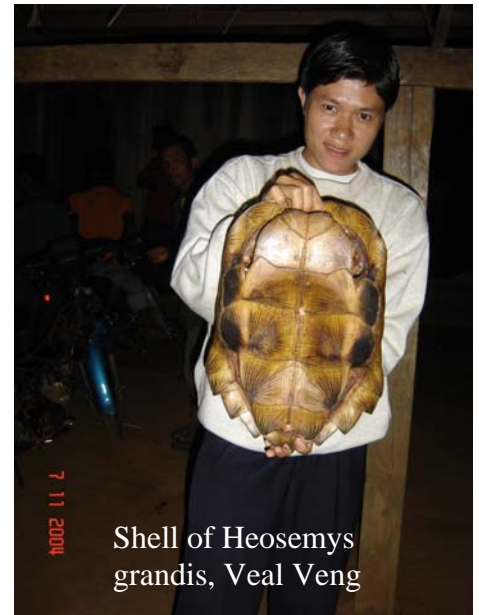
Tortoise Timed Searches:

We did timed searches in different habitats in lowland evergreen forest, montane evergreen forest, and in marshes. We did timed searches both in dry season and rainy season and both in the day and night. We caught many different species in different habitats. (See: table below)



In total we found 7 different species in and around Central Cardamom Protected Forest.

	English Name	Scientific Name	IUCN Status	Method used	Places found
1	Elongated tortoise	<i>Indotestudo elongata</i>	Endangered	Searches; shells in villages	Areng valley; hillside between Areng and Thma Bang; Veal II forest; Khnang Sral, Pramoy
2	Asiatic soft-shell turtle	<i>Amyda cartilaginea</i>	Vulnerable	Baited traps; village captures, Shells in villages	Stoeng Areng and associated backwaters; Stoeng Tatai; Veal Veng marshes
3	Black marsh turtle	<i>Siebenrockiella crassicollis</i>	Vulnerable	Timed searches with dog	Marshes in the Areng valley
4	Giant Asian pond turtle	<i>Heosemys grandis</i>	Vulnerable	Found by villager with dog; shells in villages	Marshes in the Areng valley, Veal Veng
5	Impressed tortoise	<i>Manouria impressa</i>	Vulnerable	Found by villager with dog, shells in villages	Khnang Sral mountain, O'som commune
6	Asian leaf turtle	<i>Cyclemys dentata</i> complex	Near Threatened	Baited traps; shells in villages; timed searches	Marshes in the Areng valley; Stoeng Tatai, Veal Veng
7	Asian box turtle	<i>Cuora amboinensis</i>	Vulnerable	Found shells in villages	Marshes in Veal Veng



Recommendation:

More surveys should be done in lowland and montane evergreen forest in the Cardamom Mountains further away from villages, to assess the status of the endangered elongated tortoise and to find areas with high numbers that can be protected or incorporated into core management areas and enforcement activities.

We should survey montane evergreen forest to assess the distribution and status of the impressed tortoise.

We should survey more marshes and wetlands in the Cardamom Mountains for aquatic turtles, as more study is needed to see which species are present and to identify the species' distributions and status. Wetlands are highly important habitats for many animals, not just aquatic turtles, so management activities and plans should include their protection.

After our trips in Areng Valley we think that this area has a lot of illegal hunting and turtle trapping activities by local villagers from Areng, Khchum Khlar, and Chumnoap. We recommend that the enforcement teams should do patrols around the lakes, along the rivers, and up to Khnang Sral and Khnang Loak mountains.

We found that villagers' dogs are a big threat to many kinds of animal species, especially to tortoise and turtle species because they are able to find animals that are hiding. So keeping dogs out of the forest would help a lot the conservation of tortoises and turtles and other species. It would be really good if the enforcement and community teams could think about this.

The community and turtle teams could talk to local people about hunting and fishing in those areas, particularly around the lakes and marshes, because they are very important habitats for species that are threatened with extinction. The teams can maybe produce some posters, T-shirts, and some education activities together.

The community program could give the villagers technical support for developing husbandry for pig, chicken, fish, duck, or especially turtle farming. These activities will reduce the local people from finding the animals in the forest for food because they could earn a lot of money from their raising and it can be a part of socio-economic advantage to the community.