

Return to Thailand

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by Merlin D. Tuttle

Seated high on a Thai hillside, I was mesmerized by a truly awesome spectacle. Millions of wrinkled-lipped bats (*Tadarida plicata*) were passing within a few feet of my face, their wings reflecting an orange glow against a setting sun. Dense columns were visible for miles, the bats flying wing tip to wing tip and nose to tail, their buffeting wings sounding like a white-water river.

From my vantage point beside the Khao Chong Pran Cave, I also could see hundreds of enthralled tourists, a few from as far away as Finland, I later learned. Their tour buses were parked nearby at a Buddhist temple and school where local vendors sold refreshments and souvenirs. For the moment, though, all attention was riveted on the flying spectacle above. It was Chinese New Year, and we had much to celebrate.

Only eight years earlier the Khao Chong Pran bat colony had been in precipitous decline. Poachers, under cover of darkness, were setting large nets near the cave entrance to catch fruit and nectar-eating bats which they sold to local restaurants. Monthly catches exceeded 10,000. Their nets also snared additional thousands of smaller insect-eating bats, perhaps as many as a half dozen different species. Too small to eat, these were killed to facilitate removal from the nets and then simply discarded.

The plight of bats throughout the area was serious. Only three of 12 former bat caves in the region still contained more than occasional individual bats, although in the past most had housed thousands, some millions. The largest remaining colonies, located in Khao Chong Pran and Rakang Caves, were in immediate jeopardy. The needs of a growing human population seemed guaranteed to destroy even these within a few years.

A survey and recommendations for the Khao Chong Pran bats was completed in early 1982. It was the first project of many to be sponsored by a fledgling organization, then known to only a few as Bat Conservation International. During our first visit to Khao Chong Pran, the local mayor, and the monks who owned the cave, expressed concern for the rapidly declining bats. Guano extraction for fertilizer was the primary source of local revenue, and sales had dropped by 50% in just five years. No one understood why, though we soon would find out.

In pre-dawn darkness several mornings later, my Thai assistant, Surapon Duangkhae, and I unexpectedly met the poachers face to face. Since we all were looking for bats, we inadvertently had converged at the same place on a ridge above the cave. Their large nets were full of bats, cleverly placed and well hidden from the monks' view. After some very tense first moments, we were able to assure them we meant no harm, and they gave us their full cooperation. The poachers provided estimates of average numbers of bats caught, allowing us to accompany them and verify catches in their nets. Their impact was far greater than anyone had realized.

We reported our findings to the monks and mayor. Although it was not necessary to reveal the poachers' identity, we still felt like traitors, since they had trusted and befriended us. Although the poachers were having a devastating impact on bats and the local economy, they were not aware of it. They were simply trying to support their families.

We recommended that a game warden be hired as soon as possible, emphasizing that, with protection, an expanding bat colony could generate far more revenues than it would cost to pay a warden.

Now, years later, we had returned to record the results as part of our Survival Anglia bat documentary for CBS television, and there was abundant reason to celebrate Chinese New Year at Khao Chong Pran. A game warden had been hired in early 1982 soon after I left, and as a result the bat population had grown dramatically. Today there are more than six million bats, possibly many more, and the numbers are still growing. Guano sales for 1981, when the bat population was low, had dropped to 272,788 baht (\$12,017). Since then, government records have documented dramatic gains, with 1990 sales anticipated to reach 2,216,500 baht (\$88,660).

We found similar progress at nearby Rakang Cave. This cave had once housed one of Thailand's largest bat colonies, but in early 1982 it was on the verge of total destruction by nearby limestone quarrying. Deeply concerned, Surapon and I had interviewed local villagers, learning that their community relied on guano sales from Rakang Cave for their primary income. Quarry operators were blasting within 60 feet of the cave, and villagers reported that many bats already had been killed by falling rocks.

With help from Dr. Boonsong Lekagul, the father of conservation in Thailand, we gained a government ban on further blasting near the cave and were able to generate major media publicity on the importance of the bats to the local economy. The quarry operators soon would have run out of limestone anyway, but the cave and its bats are a vital and renewable resource for the villagers.

My visit with the villagers at Rakang Cave in January of this year was unforgettable. As I walked through the cave's majestic cathedral entrance, I inquired through my field assistant and interpreter, M. L. Thoswan Devakul, about how the cave had been saved. I assumed the villagers would be relatively unaware of my personal involvement but was interested in hearing their version of the story. An old woman, who sat guarding the cave entrance, began to tell me about how Dr. Boonsong came with an American who helped them save their bats. Moments later, several of the guano miners shouted in recognition. They remembered me! Everyone joined in with what felt to me like a hero's welcome. I have never felt more sincerely thanked. One young woman recounted how I had visited her home to obtain information for the media. She had been just a child then, curious about the first American to visit her family.

Siri Tanomsri, a miner who has extracted Rakang's guano for more than 40 years, told the cave's story. The bats started to decline a little over 20 years ago when the limestone quarrying began. Although he thought the blasting disturbed some bats into leaving, he believed the greatest threat by far was poaching by the men who worked the quarry. They placed nets directly over the cave's entrances, catching large numbers of bats. There originally were two important bat caves in the area, but today only Rakang still has bats. The other cave was farther from the village where no protection could be provided, and its bats have been completely extirpated by poaching.

Much remains to be accomplished at Rakang. Fewer than a quarter of million bats remain where formerly there likely were millions, but even so, there is considerable reason for optimism. Three years ago when the quarry was finally abandoned, local villagers, on a voluntary basis, began providing around-the-clock surveillance of the cave. Siri can measure the results by the increasing amounts of guano he collects. His income has doubled in just the past year and continues to increase. A conservationist to the extent his knowledge permits, he long ago noticed that if he took guano while mother bats were rearing young, the young would die. Accordingly, he no longer extracts guano during these times. When I returned this year, he and his fellow villagers were very interested in learning more. All they asked was a little help. They will do the rest, and I am sure that a better future for both bats and guano miners is near.

Frequently, when I introduce myself as someone working to conserve bats, I am asked how I can "waste time on bats" when there are so many people in need of help. As is so well illustrated by the success at the Rakang and Khao Chong Pran Caves, good conservation *does* benefit people□ for the future, perhaps better than any other means.

Bats from just these two caves, in addition to providing a major economic boost to their communities, provide additional services as well. The wrinkled-lipped bats that roost in Khao Chong Pran Cave alone eat more than 100,000 pounds of insects nightly over surrounding farm land. And the caves' million or more fruit and nectar bats (*Rousettus leschenaulti* and *Eonycteris spelaea*) must have a tremendous annual impact on reforestation. Fast growing "pioneer plants," whose seeds are dispersed by bats, are important sources of charcoal for cooking. The bats' pollination of durian orchards may be even more important. Regional sales of durians, the "king" of Southeast Asian fruits, amount to approximately \$120 million annually. As the bat population continues to grow, and knowledge of their spectacular cave emergence spreads, revenue from tourism undoubtedly will increase as well.

Poachers no longer are able to set their nets near Khao Chong Pran cave. The entire mountain around it has been set aside by the government as the Tom Kang Kao Non-hunting Area. Anyone found catching bats there is fined 500 baht per bat, the equivalent of one week's pay for some workers. However, legal netting of these bats in surrounding areas, where previously there were too few to hunt, has become possible. As bats in the protected Khao Chong Pran Cave have reproduced, the colony has grown until it again is able to support limited hunting for food. Careful management studies are needed to ensure a long-term balance.

Even the hunters are now happy. Although they recognize me as the conservationist who requested legal protection, now enforced by a game warden, I am delighted to report that we are still friends. Their bats, now collected from surrounding areas, sell to local restaurants for an estimated 565,429 baht (\$22,617) annually. I very much value my good relations with both the game warden and the hunters. In fact, conservation and management planning would be difficult were this not the case.

Current information on how many bats are still being caught, provided to me by Ood Tongcam, a leading bat hunter, is invaluable. And I could not have fully understood the original problem without the cooperation of a poacher named Uncle Yai. I enjoyed seeing him again this year. His son, who had assisted Surapon and me on our previous visit, had grown up and gone away to work in a factory, choosing not to follow his father's profession. I met Ood Tongcam's wife and 11 children, all irresistibly friendly and considerate. Hunting bats was simply the best means he knew for supporting his family, yet his children are unlikely to continue hunting.

Champa Molek, the game warden, is a thoroughly committed conservationist who takes his job protecting Khao Chong Pran's bats very seriously. He has used BCI information to produce his own conservation pamphlets for visiting tourists and spends most evenings at the main cave entrance helping them learn to appreciate the values of bats. We discussed our mutual concerns and developed suggestions he could present to the monks regarding how best to further increase bat numbers.

Both the game warden and teachers at the local elementary school have made considerable progress in educating the next generation of Thais to appreciate bats. Students learn about the values of bats and what their conservation needs are. They even wear bat t-shirts during exercise classes. In fact, most local villagers now feel so strongly about protecting bats that there is little likelihood there will be another generation of bat hunters. Killing bats is less and less a respectable occupation, and as with Uncle Yai's son, hunters' children now seem to prefer alternatives.

Surapon Duangkhae, now a conservation officer with Wildlife Fund Thailand, and I met with Thai officials during my recent trip. As a result, the Thai Royal Forest Department is submitting legislation that will protect many more of Thailand's bats.

Even when poaching was a serious problem, there were no bad people involved, just some who did not understand the harm they did or how better to feed their families. Everyone I met was cooperative when simply given a chance. Certainly the relatively small cost of informing local leaders and of hiring a game warden has been abundantly rewarded!

A generous donation of \$6,500 from Verne and Marion Read (Verne is now BCI's Chairman of the Board of Trustees) enabled this first of our foreign projects. It is now worth a great deal more for the people of Thailand. We deeply appreciate the Reads' help and that of our many other members since then. Each of you is making a big

difference, not only for bats, but for people as well!

[bio]

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Two villagers keep guard over Rakang Cave and the treasure within (opposite page). Miners take sacks of guano from the locked back entrance to Khao Chong Pran Cave (left). Eight years ago the bats in both caves were in severe decline from poaching, but today both populations are on the increase and guano extraction is once again big business. Bat guano that the villagers mine provides their primary source of income.



Poaching of fruit bats has led to severe decline in some caves and complete extirpation in others. But hunters like Ood Tongcam (left) are only trying to feed their families, and even they can be cooperative when they understand the problem. Information he provided will be invaluable to conservation and management planning.



Champa Molek, the game warden who protects Khao Chong Pran Cave (above), takes his job seriously. He spends many evenings at the main cave entrance talking to tourists about the benefits of bats. The next generation of Thais is also learning to appreciate their local natural treasure. Children at the local school proudly wear bat t-shirts during their exercise classes (below)

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