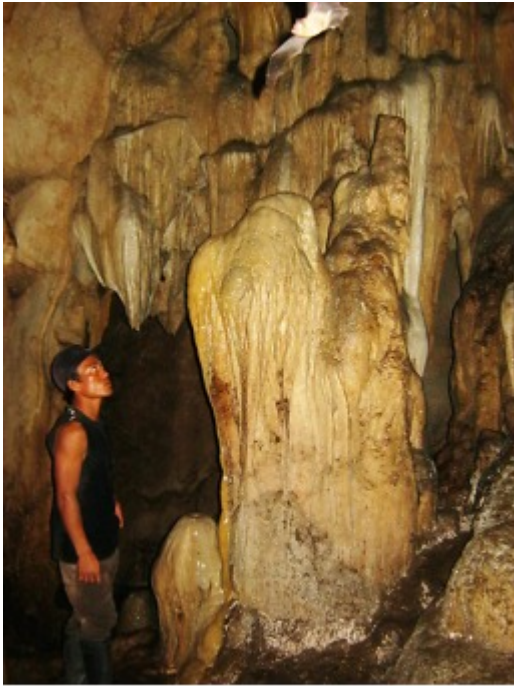


August 2012 Update: In Praise of Guano

In the effort to protect Earth's glorious living array of plants and animals, we conservationists look for all the allies we can find. And it turns out that one of our most effective, if humble, allies is guano. Yes, guano--or more specifically, a huge pile of bat feces--is revealing itself as one of our favorite agents of conservation in Tompotika.



Iman in the cave. Photo: Noval Suling

Last month, as part of a survey of important locations for biodiversity in Tompotika, AITo staff had the opportunity to visit a hillside cave tucked away in the rainforest in the western region of Tompotika. Complete with multiple chambers, limestone stalactites, and many small seeps dripping water, the cave is home to tens--perhaps hundreds--of thousands of small insectivorous bats of several different species.

Few people visit this cave--it's fairly remote, and the walk here is not easy. Furthermore, upon entering the cave, one soon enters a profound, close, and sticky kind of darkness.

The way into the cave's depths is difficult and slippery, the sound of the thousands of squeaking bats roosting on the ceilings and winging overhead is earsplitting, and there is an overwhelming stench.

Nevertheless, this cave is a spectacular natural phenomenon. We nature-loving AITo staff are instantly swept up by the beauty of the formations, the sensation of being suddenly surrounded by more bats than most of us have ever imagined, and by the very wonder that such a place could exist, so utterly different from most of Earth's face upon which we humans walk. This place--and the legions of bats who call it home--are infinitely worth protecting.

Every day at dusk, these little bats pour out of the cave in a living river, dispersing throughout the surrounding forest and also over farmers' fields and orchards far below, hunting mosquitoes and other insects. In one hour, a single bat can consume 1000 insects--insects that otherwise would damage crops and spread diseases like malaria or dengue fever among villagers. Think of that single bat's one-hour insect toll multiplied by 12 hours each night and tens of thousands of bats, and the ecological impact of just this one cave's bat population begins to hit home.



Miniopterus cave bats. Photo: Sandesh Kadur

And yet, the bats' role in controlling insects, and other key ecological roles they play, are not considered of much consequence to the local folk who live around here. To them, the important thing is guano.

In today's visit, we are being escorted by a local man, Iman, whose father owns the land upon which the cave is situated. Iman is a quiet, gentle young man, who walks with a slight limp and yet is remarkably agile, scrambling with ease up and down the hazardous terrain within and outside the cave. He explains that he comes to the cave perhaps every three months or so, usually with a relative or friend or two. They each bring along a large sack, which they fill with the dry bat guano that accumulates in thick carpets and piles on the cave floor. After filling their sacks (they've found a few favorite places within the cave where the guano is easiest to dig), Iman and his mates return to the village, where they use the guano as rich fertilizer on their crops, or sell it to others. His family, the cave owners, are aware that occasionally, others visit the cave for the same purpose, but they do not object as long as all the visitors do is take a bag or two of guano. And that is how it has always been.

In some parts of Sulawesi, the bats in a cave like this would be at risk from hunters. Has anyone ever tried to hunt the bats here, we ask Iman? No, he says. That would not be allowed. For if the bats were taken, there would be no guano.

Later, we descend to the village and speak with Iman's father, landowner of the cave site, and other villagers. We thank him for protecting the cave and its bats, and note the bats' other important ecological roles and benefits. The discussion also runs to the fact that the bats' guano is the best possible organic fertilizer for gardens and crops-- unlike expensive and poisonous commercial chemical fertilizers, it's effective, sustainable, and graciously provided by the bats, free of charge!

One wonders if the bats would be impressed by the idea that they are being protected by their own guano. But as the saying goes, "One bat's trash is another man's treasure." As the AITo team climbed to the bat cave that day last month, a double rainbow appeared. We noticed that the rainbow's second arc ended somewhere in the rainforested hills above Iman's village. It ended, as a matter of fact, just about in the location of the bat cave.



Iman in the fields below the bat cave. In this case, the pot at the end of the rainbow contains not gold, but guano.

Marcy Summers

Director, Alliance for Tompotika Conservation (AITo)

Vashon Is., WA 98070 USA