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A Rare Study of Nepalese Bats & Surprising Attitudes Sujas Prasad Phuyal

The scarcely studied bats of Nepal face a host of -dangers, from human -disturbance and carelessness to lost habitat and declining food supplies. But our research also suggests – surprisingly – that Nepalese, at least in the Pokhara Valley, rather like these flying mammals that endure such disdain in other countries. That positive attitude should make their desperately needed conservation a bit easier.

With the support of a BCI Global Grassroots Conservation Fund grant, my field crew and I established the first, somewhat tentative, baseline study of the diversity of bats in Pokhara Valley and the threats facing them. We identified 11 species (22 percent of the total bat species known in Nepal) and 12 significant roosting sites, all but three of them previously undocumented.

By interviewing residents of the valley, we also developed a rough sense of the bats' current status, which is mixed at best.

In addition to many informal discussions aimed at locating bat colonies and determining local observations of their past and current numbers, we also conducted a formal questionnaire survey.

The number of respondents (fewer than 100) is small, but they were selected to cover a wide range of locations, occupations, ages, gender and educational levels. We are confident of the general results, which were confirmed in informal discussions.

Most people (59 percent overall) held positive attitudes toward bats. Another 19 percent were indifferent to them, and only 22 percent indicated negative perceptions.

Non-farmers and people living farthest from bat roosts generally liked bats more than farmers and those who lived in close proximity to roosting sites. This may be due to the perceived notion that bats damage commercial fruit and because flying fox roosts can be noisy. But even among these groups, most attitudes were positive.

Many people felt that bats are interesting because they are secretive. Some felt sorry for them because they roost upside down. One woman noted that she had enjoyed especially good fortune during a year in which a bat visited inside her home.


Nepal is nestled between India, which traditionally classified bats as vermin and only recently granted protection to some species, and China, where bats are celebrated in art and folklore as harbingers of good fortune.

The Pokhara Valley in north-central Nepal covers 236 square miles (611 square kilometers) in the southern Himalayas. Most of its 275,000 residents are governed by 30 Village Development Committees and two municipalities.

The valley varies in elevation from 1,600 feet (500 meters) to 9,800 feet (3,000 meters). About half the land is under cultivation, and fragmented forests cover most of what remains. The climate is humid and subtropical.

We identified potential roost sites for investigation mostly through informal interviews with local residents. We also identified potential sites by analyzing maps. Promising sites were visited to confirm the presence of bats.



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The dozen roosts that we identified – two tree roosts and ten caves – are all in or near urban areas. Only two of the roosts enjoy the safety of inaccessibility.

We caught, identified and released bats at each of the cave roosts. We sampled bats three times at each cave, rotating the duty among researchers so each gained experience with different habitats.

Of the 11 bat species we recorded in the valley, three were fruit bats: short-nosed fruit bats (*Cynopterus sphinx*), Indian flying foxes (*Pteropus giganteus*) and Leschenault's rousette fruit bats (*Rousettus leschen-aulti*). The rest were all insect-eating bats, except for the greater false-vampire bat (*Megaderma lyra*), which has a decidedly varied carnivorous diet from insects to fish, frogs, birds and rodents.

These bats face a wide range of threats, almost all of them related to people.

Three of the roost caves are tourist destinations that draw thousands of visitors annually. They are Bat Cave, Mahendra Cave and Gupteshwor Cave. Much of Mahendra Cave recently has been illuminated electrically for 12 hours a day. This excessive lighting clearly disturbs bats that have used the cave. We observed only one bat during our visits, and area residents report no bat sightings since the lighting was installed. Our survey, however, revealed five fresh guano piles, suggesting at least some bats still use the cave during the night, when the lights are turned off. Gupteshwor Cave uses some electric lights, while visitors to Bat Cave must use flashlights. We found no significant lighting effects at these two caves.

Bats in these caves, especially in Bat Cave, sometimes face harassment – notably rock throwing – by tourists who are at most loosely supervised. Other roost caves are sometimes used for social gatherings, during which fires are often lit. No protective restrictions are currently imposed.

Bats also are often killed for use in medicine and, rarely, for food. Residents report that bats are considered useful in curing rheumatism and asthma in humans and urinary problems in cattle.

Meanwhile, villagers in some parts of the valley report that they are seeing far fewer fruit bats than in the past. Logging in the forests deprives the bats of both feeding and roosting options, as does the cutting and trimming of trees in cities and towns. Also, there has been a sharp decline in fruit production, especially bananas, guava and papaya.

Our study in this lovely and diverse valley leads to a number of recommendations for the conservation of the Pokhara Valley bats. Prompt research is needed to document the reasons for the apparent decline of flying fox populations, and immediate conservation action is needed.

We should be able to build on the generally positive attitudes toward bats with educational programs aimed at increasing conservation awareness, especially among children and those living near large bat colonies. Bat caves need protection to prevent disturbance of colonies and excessive lighting must be reduced. Managers of tour caves should consider promoting their bat colonies, and should certainly help educate the public about bats and other cave-dwelling animals. Urban tree planting should be encouraged throughout the valley to provide needed food and roosts while beautifying neighborhoods.

With so much to be done, these recommendations barely scratch the surface. But they are, at least, a place to start.

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