

STORM FORECASTING BY BATS

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During late May 1959, in Jaipur City, India, a number of Indian Pigmy Pipistrelles, *Pipistrellus mimus*, were observed by I. Prakash flying about 7:30 p.m. and on three different occasions their sudden disappearance from the skies was shortly followed by three devastating storms, one of which on the 28th May, "uprooted thousands of trees, blew away hundreds of tin sheds, and killed many cattle." (Jour. Bombay Nat. Hist. Soc. 57:1, 216, 1960). Prakash was able to forecast two of the three storms based on the sudden disappearance of the bats.

Naturalists may be interested in similar observations made in other parts of the world, but my notes at this point must be regarded as casual, which may be documented at a later date by accurate measurements of time, light intensity, temperature, humidity, barometric pressure, actual number of bats observed, etc.

FREE-TAILED BATS

In Trinidad the Large free-tailed bat, *Molossus ater* and the Small free-tailed bat, *M. major* are insectivorous and crepuscular. They may be observed to leave their building and tree roost nightly approximately forty five minutes before sunset. The actual time of day varies about one hour between December and June. As the intensity of the sunlight lessens there appears to be a point at which the bats take flight to feed. They may be first seen in the darker valleys and shortly thereafter on the higher elevations and the open areas. The bats occur in considerable numbers and fly at first with the swifts, *Chaetura brachyura*, commonly seen at this hour. But after fifteen minutes of mingling, the birds abandon the skies to the bats. During this period of mixed flight, the bats may be distinguished from the birds by their more complex manoeuvres of sudden and erratic twists, turns and dives in pursuit of insects, which the swifts seem unable to perform. I have asked various people if they could tell me what was flying in the sky at the moment when there were only bats and I have been invariably informed that these were the nightly flights of "night birds" or "rain birds" and in some instances was told that "rain would shortly fall" after seeing these flights. This bat flight continues until dark or shortly thereafter whereupon the bats return to their roosts. If

THE JOURNAL OF THE TRINIDAD

a person lives in a house occupied by these bats and knows the exact spaces of entry and exit, distinct thumps may be heard as the bats re-enter the house. The free-tailed bats may sally forth again for a second flight about forty-five minutes before dawn or they may forego this second flight. More Molossid bats appear to fly before dusk than dawn this statement requires substantiation. This seems to be the normal flight schedule of *Molossus ater* and major in and about Port-of-Spain.

On several occasions I was surprised to see large numbers (hundreds) of both species of *Molossus* flying about in brilliant sunshine from one to two hours ahead of their normal daily appearance in different sections of the city. Invariably these before-scheduled flights were followed by wind and rain about the time when the bats would have normally appeared.

UNUSUAL EARLY FLIGHT

One day in December 1959, I was sitting on the gallery of a home located in the St. James district of Port-of-Spain, when I noticed that free-tailed bats were flying unusually early for this species. It was 4 p.m. There were bright skies and sun although it had been raining earlier during the day. I thought this flight unusual so I drove about to check some other sections of Port-of-Spain. I particularly checked the vicinity of the Royal Victoria Institute Museum for it commands a good view of the surrounding districts, particularly the Queen's Park Savannah and Memorial Park, and more important I was well acquainted with the flight schedules of the various species of bats which may be seen here. It was 4:30 p.m. I was several miles east of St. James. I saw no bats flying about the Museum or the Savannah. I returned to the house in St. James. The bats were still flying in this area but they suddenly disappeared around 5:30 p.m. Their disappearance was followed by a high wind of short duration and a heavy rain. It looked like one of the extremely localised showers many of which can be experienced during the rainy season in Trinidad. I telephoned the Museum and learned that there was no rain falling there, so I immediately drove back to the Museum and observed that the free-tailed bats had emerged for their nightly flight. By the time I returned to St. James, the rain had stopped but it was too dark to tell whether any *Molossus* were flying.