Kessarin Utthammachai 2009: Foraging Habitat Use by Acoustic Monitoring of *Tadarida plicata* (Buchannan, 1800) in an Agricultural Landscape, Ratchaburi Province. Master of Science (Forestry), Major Field: Forest Biology, Department of Forest Biology. Thesis Advisor: Assistant Professor Vijak Chimchome, Ph.D. 57 pages.

The objective of the study was to know the foraging habitat use and activities of *Tadarida plicata* from a large colony in Khao Chong Phran non-hunting area, Ratchaburi Province, Central Thailand. This study determined habitat use and feeding activity of *T. plicata* in an agricultural landscape including its seasonal effect. From sampling effort of 1,160 hour, The total of signal-receiving time was 69,600 minutes and 674 feeding buzzes were found. The proportion of signal-receiving time over the total recording time was measured to obtain an estimate of the relative activity of bats within 7 habitats including dry rice fields, wet rice fields, villages, sugarcane fields, forest patches, forest plantation and urban areas. *T. plicata* selected villages and dry rice fields ($P<0.001$). In addition, the number of feeding buzzes per unit of activity time was used to calculate an index of attack rate by bats. Feeding activity was highest in villages followed by dry rice fields ($P<0.001$).

There was a significant difference in mean signal-receiving time recorded between seasons ($P<0.01$). The highest feeding activity was in the cool and rainy season with the lowest in hot season ($P>0.05$). From this research, bat activity was highest when bats were young foraging ($P<0.01$) and it was highest in lactating and lowest in female pregnant ($P<0.01$). The highest bat activity was in the cool and rainy season ($P<0.01$). Feeding activity was highest in the cool and rainy season ($P>0.05$).

There were significant differences in bat activity among distance categories. The signal-receiving time was highest at 0-5 km from the Khao Chong Phran cave ($P<0.001$). However, there were differences among habitats in mean attack attempt (numbers of feeding buzzes per unit of activity time) between recording sessions.

Rice fields are also important target foraging areas for *T. plicata* at Ratchaburi Province in Thailand as elsewhere because the habitat of villages and dry rice fields had an intense bat activity. Finally, the result has implications directly for farmers because restricted use of pesticides in rice fields or crops may initiate a negative feedback with bats. The importance management was demonstrated in an agricultural landscape for bat conservation.

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