

報告番号	※	第	号
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主論文の要旨

Behavioral ecology of flying foxes:
a cue of disease transmission in the wild
論文題目 (オオコウモリの行動生態学—野生下における病原体
感染の鍵)
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論文内容の要旨

It is well-known that fruit bat of genus *Pteropus* is important for the maintenance of forest and ecosystem diversity. However, in the last few decades, they are recognized as the reservoir of infectious diseases that cause public health problems on humans and livestock over the world. To understand the ecological processes that promote the spillovers of pathogens within bat populations and/or across animal species, the author investigated behavioral ecologies of flying foxes living in South East Asian countries, and provided the data on behavioral ecologies of flying foxes, including daytime behavior, nighttime behavior and population dynamics, which is required to develop the model of disease transmission in future. In Chapter 1, daytime behavioral study was conducted on *P. vampyrus* in Indonesia and *A. jubatus* in the Philippines during 2016-2017. The author described the variation in activity patterns, the time budget spent for each activity of flying foxes and the frequency of interspecies interaction between flying foxes and other wildlife. By these information, we could measure the contact rate among bat population and/or between bats and other animals. In Chapter 2, nighttime behavioral studies were performed on *P. vampyrus*, living in Indonesia, on 2017. the author showed the data on movement patterns, habitat utilization, and foraging behaviors, which would be a cue, to answer the question of how bats contact with humans and domestic animals. Furthermore, this information allows us to predict the geographic distribution of flying foxes, as well

as the area wherein bat virus outbreaks may occur in Indonesia. In Chapter 3, the mortality rate was examined in *P. lylei*, living in Thailand during 2015-2017. The author revealed the seasonal variation in mortality rate of the flying foxes. The information gained by this study not only make us understand population dynamic of bats, but it is also helpful for creating a mathematical model for the spread of an infectious disease in a population of hosts.