

Nonn Panitvong 2012: Ecological Characteristics and Impact of Human Disturbance on Sumontha's Cave Gecko (*Cyrtodactylus sumonthai* Baeuer, Pauwels & Chanhome, 2002) on Limestone Cave Habitat in Khao Wong Area, Rayong Province. Doctor of Philosophy (Environmental Science), Major Field: Environmental Science, College of Environment. Thesis Advisor: Associate Professor Veerayut Lauhachinda, Ph.D. 93 pages.

An ecological study of *Cyrtodactylus sumonthai*, a karst dwelling species of gekkonids, was done in Khao Wong, a lime-stone karst of South eastern Thailand, during a one year period. There were two parts of the study sites, one was in Khao Wong temple where extensive modification of cave and area out side of the cave occurred, while the site in National Park (NP.) had very minimal disturbance and modification of habitat. Our result showed that population of this species consisted mainly of adults, with a small percentage of subadults and juveniles. Habitat partitioning among age groups was recorded as adults preferred areas inside of the cave and the ecotone at the entrance of the cave, subadults preferred the ecotone area and hill side, and juveniles were found most on the hill side and at the base of the karst along an ephemeral stream. The geckos preferred cave wall area with medium to high porous wall but avoid smooth and very high porous area. We found the deposition period to be peaked at the end of wet season to beginning of the dry season (November-December). The eggs took 3-7 months to hatch. The growth rate of recaptured individuals showed that females took about 2 years to mature. *C. sumonthai* laid 1-2 eggs in crevices which was found mostly in side the cave. There were smaller percentages of subadult and juvenile in the temple site, compare to NP. site, due to the fact that this two age group preferred area outside of the cave, which in the temple case, has been greatly modified that it was not suitable for the young gecko to live. A low percentage of marked individuals were being re-captured, which is probably evidence of large population size, high mortality and migration or a low level of activity of this gecko in general. However, the majority of re-captured individuals were mostly found in the same general area where they were previously captured except for a few adult individuals that showed some short migratory behavior and subadults that moved closer to the cave entrance as they grew. The geckos were found to be active through out the year, but lower activity was recorded during May-October (wet season) probably due to increase predators activity and interspecific competition from amphibians.

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Student's signature

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Thesis Advisor's signature