

Wut Taksintum 2012: Ecological Breeding Characteristics, Larval Development, and Propagation of Hansen's bush frog (*Chiromantis hansenae*) by Ecological Model. Doctor of Philosophy (Environmental Science), Major Field: Environmental Science, College of Environment. Thesis Advisor: Associate Professor Virayuth Lauhachinda, Ph.D. 75 pages.

Ecological breeding factors, larval development and propagation of Hansen's bush frog (*Chiromantis hansenae*) were conducted during October 2008 to September 2009 at Sakaerat Environmental Research Station, Nakornratchasima province, at Ban PongKaet, Chantaburi province, and at Department of Zoology, Faculty of Science, Kasetsart University. The study found that ecological breeding factors of Hansen's bush frog compose physical factors and ecological factors. The physical factors are mostly correlated with rainfall, especially in period immediately after rainfall. Air temperature is moderately associated with breeding activities with increasing breeding activities at higher air temperature. The ecological factors of Hansen's bush frog consist of trees or shrubs over-hanging water body including various grasses around the water body which is laying egg area for Hansen's bush frog. Breeding of Hansen's bush frog must be composed of physical and ecological factors in the same time. The study on larval development of Hansen's bush frog in aquarium size 25x50 cm. found that hatching occurs within 3 days or more depending on air temperature and larva emerges from jelly egg at stage 23. Larvae were reared in aquarium with density of 100 tadpoles/ aquarium and were fed with streamer vegetable and fish artificial food daily. Larvae or tadpoles complete their development through metamorphosis within 53 days or at stage 46. Froglets move from the water at night and start eating after 3-4 days later. The froglets, then, were moved to reared in cage size 2x2x2 meters which imitates ecological characteristics of Hansen's bush frog. Froglets were fed with small crickets until they reach mature size. The study found that male Hansen's bush frog raised in captivity can breed in rainy season next year, but the female does not. In addition, adult Hansen's bush frogs collected from both study areas live well and lay eggs in the cage with established environment as natural habitat.

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Thesis Advisor's signature