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**Estimating detection probability and site occupancy of *Leiolepis guentherpetersi*in the coastal sandy areas of Phu Loc district, Thua Thien Hue province**

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**Abstract**

The Peter’s Butterfly Lizard (*Leiolepis guentherpetersi*) is endemic to Vietnam. However, there is no available information related to detection probability and site occupancy of this species so far. Nine surveys were conducted at 50 plots in the coastal areas of Phu Loc district from September to December 2017 in order to detect the presence of *Leiolepis guentherpetersi*. Our results showed that the detection probability of *L. guentherpetersi*, when combined with environmental factors, was 0.383, which was higher than the naive detection probability of 0.34. The total AIC weight of the near sea ecosystem was 85.9% while the total AIC weight of the ecosystem far from the sea was only 13.5%. The AIC weight of weather conditions was 99.4% while the total AIC weight of temperature was 62.3% and the total AIC weight of humidity was 27.2%. These results indicated that the probability of detecting *L. guentherpetersi* influenced by both site covariates (near the sea or far from the sea) and sample covariates (temperature, humidity, and rainfall). In there, the near sea ecosystem is the best habitat for *L. guentherpetersi* and rainfall is sample covariates that had the greatest influence on detection probability and site occupancy of this species.

**Keywords**

Detection probability, butterfly, lizards, site occupancy, Phu Loc.

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