

Evaluations of shading places for green turtles nesting in Thailand

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Sex determination of sea turtles depends on temperatures in a nest. In the case of Green turtles, *Chelonia mydas*, the pivotal temperature was estimated at 30.04 °C in the first third nest temperature on a beach of Khram Island, Thailand (Tatsukawa *et al.*, unpublished data). Nest temperatures under a nylon roof were lower than those under sunshine in their shading experiments of 2001 and 2002. Sea turtles may select a place with suitable temperature conditions to nest on a beach for realizing their reasonable sex ratio, not random. We examined actual nesting locations, as under trees, bushes or sunshine, on a beach of Khram Island from 2001 to 2003. Each average temperature measured by a data logger was 29.53 °C in air, 29.30 °C in sand of 50 cm depth from a sand surface under trees and 30.45 °C in sand of same depth under sunshine from May to July in 2003. All nests were located on the beach above the water's edge at a high tide. Each percent nest with eggs in a total number on the beach was 69.7% under trees, 28.8% under sunshine and only 1.5% under bushes. Each percent non-nest position where sea turtles did not complete to nest, but only trying to dig a hole, was 32.3% under trees, 60.4% under sunshine and 85.7% under bushes. Both average numbers of eggs per nest under trees and sunshine were 104.67±23.24 and 108.5±14.84, respectively. According to our research results, it was suggested that sea turtles might prefer to nest at shading places than under sunshine. So, we think that sea turtles must have a temperature selection strategy to nest on a beach for their reasonable sex ratio and also continuous surviving.

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