

## Changing culture: Factors influencing sea turtle egg consumption in Redang Island, Malaysia

Shankar Poti Meenakshi<sup>1,2,3,4</sup>, Long Seh Ling<sup>5</sup>, Rusli Mohd Uzair<sup>4,5</sup>, Hugé Jean<sup>2,6</sup>, Mohd Jani Jarina<sup>3</sup> and Dahdouh-Guebas Farid<sup>1,2</sup>

- 1 Systems Ecology and Resource Management Research Unit, Université Libre de Bruxelles (ULB), Campus de la Plaine, Avenue F.D. Roosevelt 50, CPi 264/1, 1050 Brussels, Belgium  
E-mail: [meenakshipoti@gmail.com](mailto:meenakshipoti@gmail.com)
- 2 Plant Biology & Nature Management, Vrije Universiteit Brussel (VUB), Boulevard de la Plaine 2, 1050 Ixelles, Belgium
- 3 School of Marine & Environmental Sciences (PPSMS), Universiti Malaysia Terengganu (UMT), Universiti Malaysia, 21030 Kuala Terengganu, Terengganu, Malaysia
- 4 Sea Turtle Research Unit (SEATRU), Universiti Malaysia Terengganu (UMT), Universiti Malaysia, 21030 Kuala Terengganu, Terengganu, Malaysia
- 5 Institute of Oceanography and Environment, Universiti Malaysia Terengganu (UMT), Universiti Malaysia, 21030 Kuala Terengganu, Terengganu, Malaysia
- 6 Centre for Environmental Sciences, University of Hasselt, Campus Diepenbeek Agoralaan Building D, 3590 Diepenbeek, Belgium

Sea turtles in Malaysia have faced serious population declines due to multiple anthropogenic stressors; one of the key stressors being the direct consumption of their eggs. On Redang Island, a primary nesting site for green turtles (*Chelonia mydas*) in Malaysia, turtle eggs have been consumed for centuries. In the past, the local community was dependent on the eggs for their livelihood through a licensed collection system. Owing to the precipitous decline in sea turtles, the main nesting beaches were protected as sanctuaries in 2004, prohibiting egg collection from these beaches. Between 1996 to 2014, a local awareness program was initiated for grade 5 school students (age 11 years) educating them on sea turtle conservation. At the end of the program the children pledged to stop consuming turtle eggs. Our study investigated the prevalence, influencing factors and impact of the awareness program on egg consumption. Respondent perceptions towards egg consumption and conservation were also explored. Data were collected through interviews in 73 households in the Redang village. Based on the respondents' perceptions, our findings suggest that the consumption of turtle eggs has decreased since the initiation of protection measures. Using logistic regression, we found that older people and past egg collectors were more likely to consume turtle eggs. Attending the awareness program resulted in a significant decrease in egg consumption in the younger age groups. Turtle egg consumption in Redang is predominantly influenced by cultural factors linked to age and taste preferences rather than economic factors. The perceptions towards the conservation of sea turtles were positive, primarily due to the locals recognising that turtle populations would go extinct without protection. Moreover, a rapid growth in the local tourism sector has served as an economic alternative to egg harvesting. The respondents recognised the importance of sea turtles for tourism, showing that species values are changing. We recommend future efforts to focus on restarting tailored awareness programs, targeted at all age groups and locals employed in the tourism sector.

Keywords: Sea turtles; Human-nature interactions; Sea turtle eggs; Cultural services; Conservation; Education; Awareness; Interview; Social-ecological system