The Unique Patterns of Green Turtle Mitochondrial DNA Short Tandem Repeats as a Tool for Geographic Patterns Exposure

Tikochinski Y*

Introduction

Sea turtles have become the flagship of marine ecosystem conservation in the past three decades. Five out of the seven existing sea turtle species (green, hawksbill, loggerhead, leatherback and olive ridley) were declared endangered or even critically endangered by the International Union for Conservation of Nature (IUCN). In addition to being an animal that people tend to like and identify with, their cultural significance and tourism value, sea turtles are important components of the coastal and pelagic ecosystems in tropical and subtropical regions of the world. Sea turtles, when in high population levels, have substantial effect on the marine systems they inhabit as consumers, prey and competitors. They are hosts for parasites and pathogens, substrates for epibionts, nutrient transporters and modifiers of the landscape, especially by maintaining sea grass beds and coral reefs.

Sea turtles are philopatric animal, which travel hundreds to thousands of miles for feeding, mating and nesting. Satellite tracking became a popular and effective way to discover their migratory patterns. Natal homing has been shown in populations of green as well as other sea turtles in females that come ashore to nest, males and even juvenile turtles. Since mating occurs just offshore from the nesting beach, nesting colonies can be separate reproductive units that do not blend demographically between each other. Lohmann at al suggested geomagnetic imprinting and magnetic navigation as a unifying hypothesis of long-distance natal homing in sea turtles. Monitoring population changes and new colonization events as a result of changes in Earth's magnetic field will help solidifying this hypothesis.

Keywords:

Sea turtles; Endangered species; Satellite tracking; Mitochondrial DNA; Short tandem repeats; Stranded