

Satellite tracking of immature loggerhead turtles in the northwestern Pacific

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Loggerhead sea turtles are widely distributed in tropical and subtropical waters in the world. It is very important to make clear the oceanic distribution and migration route of this species for the conservation and management. Although many studies have been conducted on the movements of inter-nesting and post-nesting female loggerheads, there is little information on the movements of immature turtles in the ocean. In this study, 2 subadult loggerhead turtles (SCL: 62cm and 65cm) captured in the northwestern Pacific on May to June in 2002 and 3 subadult turtles (SCL: 64cm, 64cm and 70cm) in the same period and same area in 2003 were tracked by satellite telemetry. Furthermore, 2 juvenile loggerheads in age of 1+ and 2+ (SCL: 40cm and 53cm) hatched and kept in the Port of Nagoya Public Aquarium were also tracked by satellite telemetry in the northwestern Pacific to compare the behavior with subadult turtles. Two subadult turtles released in 2002 moved by the average speeds of 1.5km/h and 2.1km/h with the total distance of 6,536km and 8,791km during total tracking of 186 and 178 days, respectively. The satellite tracking of 3 subadult turtles released in 2003, which is still continuing, provided information on movements of these turtles over 4 months so far. The average speeds of juvenile turtles in age of 1+ and 2+ were 2.1km/h and 1.0km/h with the total distance of 4,275km and 3,831km during total tracking of 85 and 156 days, respectively. All subadult turtles moved to the north and to the east in accordance with the Kuroshio Current and stayed on warm water mass. These turtles moved rapidly to the long distance along oceanic current and stayed on warm water mass for a long time, repeatedly. It was suggested that the warm water mass might be important feeding grounds of subadult loggerhead turtles. On the other hand, juvenile turtles migrated to higher latitudes than subadult turtles. The difference observed between subadult and juvenile turtles might result either from the difference of feeding grounds by growth stage, or from the difference of body size, ability to swim, individual career history (wild or captive) of turtles.

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