CARAPACE SCUTE VARIATION IN OLIVE RIDLEY (LEPIDOCHELY OLIVACEA) HATCHLINGS FROM A TURTLE HATCHERY IN SRI LANKA

Suhashini Hewavisenthi and S.W. Kotagama
Dept. of Zoology Open University, Nawala

The carapace of turtles consist of three rows of scutes. These are the central vertebrals, two rows of costals and marginals. Dereniyagala (1939) reported that the number of these scutes varied in all species except for the Leatherback. His observations were based on naturally hatched young, and wild specimens. This study was carried out at the Kosgoda turtle hatchery, to find out the variations of carapace scutes in hatchery produced hatchlings.

During the 1988/89 nesting season, a total of 470 hatchings from artificial nests were examined and they were categorised into predetermined scutes 'combinations' and 'patterns'. The 'combinations' were the number of vertebrals, left and right costals and marginals present, while the 'patterns' were based on the individual and combined outline of scutes within the 'combinations'.

Total number of vertebral scutes varied from 5 to 9. Most common individuals were those with 6 vertebrals with a percentage frequency of 44.9%

Number of costals varied from 5 to 10 on either side and 19 'combinations' of these were noted. Individuals with paired arrangement of costals were more frequent than those with unpaired ones and the most common were those with 6 pairs of costals (30.6%).

Number of marginals varied from 12 to 15 on either sides and 10 'combinations' of these were noted. Hatchlings with 13 pairs of marginals were more frequent (91.1%).

The total number of inner carapace scutes (vertebrals + costals) varied from 15 to 27. The most common number was 18 with a frequency of 10.4%.

Hatchlings can be divided into 48 groups of different scute 'combinations' with respect to the inner carapce scutes Within each group different scute 'patterns' were observed. The most frequent scute combination found was the one with 6 vertebrals and 6 pairs of costals (6 left costals, 6 vertebrals, 6 right costals) within which, pattern "a" was predominant. The scute 'combination of 7 vertebrals and 7 pairs of costals (7L, 7V,7R) had the most number of 'patterns' (21).

Individuals with 5, 6 and 7 vertebrals could be grouped into one, three and five basic patterns respectively. A basic pattern for hatchlings with 8 and 9 vertebrals could not be worked out.

A detailed study of this nature had not been reported before. However Deraniyagala (1939) and Hughes (1974) give some information on scute number variations. The scute variations recorded in this study are very similar to those reported by Deraniyagala(1939)for 378 wild specimens. However some data on Sri Lanka differ with those of Hughes (1974) from South East Africa (n = 55). This may indicate regional variations in subspecific differences.

References:

Deraniyagala, P.E.P. (1930) The tetrapod reptiles of Ceylon Vol. I Testudimates and crocodilians Colombo, Colombo Museum. London, Dulau.

Hughes, G.R., (1974). The sea turtles of South East Africa I. Investigational report of the Ocenographic Research Institute, Durban, South Africa, 35:72