

# Carapacial scute variation in Loggerhead Turtles, *Caretta caretta*

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**Abstract.** The carapacial scutes of 3511 specimens of hatchling and adult Loggerhead Turtles (*Caretta caretta*) from five different nesting beaches in Turkey and Cyprus (Dalyan, Fethiye, Belek, Kızılot and Karpaz) were examined. Scutes were examined with regard to variation within carapacial scute series and variation in carapacial scute pattern. The vertebral, costal and marginal series were the most variable and the supracaudal scute was extremely stable for the hatchlings. The adult scute pattern showed stability for all scutes except the marginal series. The most common scute pattern observed was 12 pairs of marginals, 5 pairs of costals, 5 vertebrales, 2 supracaudals and a single nuchal.

**Kurzfassung.** Die Schilder der Rückenpanzer von 3511 frisch geschlüpften und adulten Unechten Karettschildkröten (*Caretta caretta*) wurden in fünf verschiedenen Nistgebieten der Türkei und Zypern (Dalyan, Fethiye, Belek, Kızılot und Karpaz) untersucht, und zwar sowohl im Hinblick auf die Anordnung wie auf die zahlenmäßige Variation. Die vertebralen, costalen und marginalen Reihen zeigten bei jung geschlüpften Tieren die höchste Variabilität, während die Supracaudalae extrem stabil waren. Die Schilder der Alttiere sind mit Ausnahme der Marginalen sehr konstant. Das häufigste Muster war 12 Paare Marginalae, 5 Costalae, 5 Vertebralae, 2 Supracaudalae und ein Nuchale.

**Key words.** Carapace, marine turtle, sea turtle, hatchlings, adults, Turkey, Mediterranean.

## Introduction

Although a great deal of stability has been observed in the number and arrangement of scutes in turtles, individual variation has been observed in nearly all species of turtles that possess scutes. The typical chelonian carapacial scutation (a term introduced by DERANIYAGALA 1939) consists of a median longitudinal series of unpaired elements, the vertebral scutes, flanked on each side by a series of bilaterally paired scutes (the costals) which are bordered exteriorly by another series of bilaterally paired scutes, the marginals. Situated posteriorly between the last pair of marginals is pair of supracaudals. However, some workers consider the supracaudals as part of the marginal series, but we consider these scutes as separate from the marginals. Supernumerary and subnumerary scute counts have been observed for nearly all species of turtles that possess scutes (HEWAVISENTHI & KOTAGAMA 1989, NEWMAN 1906, GADOW 1899; MAST & CARR 1989). Among the sea turtles, the greatest deviation from the scute pattern is found in the genus *Lepidochelys* (MAST & CARR 1989).

GADOW (1899), in his study of Loggerhead Turtles, *Caretta caretta*, noted that adults appear to have far less variation than do hatchlings of the same species. He proposed the idea of "orthogenetic variation", postulating that young turtles that possess more than the normal