Barnacles on Hawksbill Sea Turtles, *Eretmochelys imbricata*, in Hormoz Island, Iran

(Reptilia: Cheloniidae)

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Abstract. The abundances of the epibiotic barnacles *Balanus amphitrite* Darwin, 1854 and *Chelonibia caretta* Spengler, 1790 on female Hawksbill Turtles, *Eretmochelys imbricata* (Linnaeus, 1766), are described from Hormoz Island, Iran. Barnacles were more frequent on the carapace (average 31 barnacles/turtle) than on the plastron and head. Significant positive correlations were found between the abundance of barnacles and the size of the turtles (straight carapace length and plastron length) but no correlation was found between the number of barnacles and head length. Habitat and individual physical and behavioural differences of Hawksbill Turtles may affect the abundance of attached barnacles.

Key words. Epibionts, barnacles, *Balanus amphitrite, Chelonibia caretta,* Hormoz Island, Iran.

Introduction

One of the roles of marine turtles in marine ecosystems is to provide a substrate for diverse communities of epibionts, primarily on the carapace (BJORNDAL 2003). Many factors determine the presence or absence of epibiotic species on marine turtles, including recruitment dynamics, disturbance, competition, physical stress, and predation (FRICK et al. 2004). Diverse varieties of epibionts inhabit the external surfaces of sea turtles including *Caretta caretta* Linnaeus, 1758 (CAINE 1986, GRAMENTZ 1988, FRICK et al. 1998), *Eretmochelys imbricata* (Linnaeus, 1766) (SCHÄRER 2001, 2006), *Chelonia mydas* Linnaeus, 1758 (GREEN 1998), *Lepidochelys olivacea* (Eschscholtz, 1829) (DÍAZ et al. 1992), and *L. kempii* (Garman, 1880) (MÁRQUEZ 1994).

Turtle barnacles are obligate commensals of sea turtles. They are widely dispersed in both tropical and temperate seas (UTINOMI 1969), and several barnacle species are known to occur exclusively on sea turtles (e.g. MONROE & LIMPUS 1979). For barnacles, the sea turtle body can be viewed as a restricted or closed system, especially in contrast to the more open intertidal zone. Epibiota of the mainly tropical Hawksbill Turtle, *Eretmochelys imbricata*, have been described only in a few reports of stranded or nesting individuals (e.g. MONROE & LIMPUS 1979, FRAZIER et al. 1985), and our aim was to obtain more useful basic information on the distribution and abundance of barnacles on Hawksbill Turtles.

Material and methods

The study was carried out at Hormoz Island (27º02'N, 56º25'E), the third largest of the Iranian islands situated in the Persian Gulf. It has an area of about 45 km^2 and about 5.5 km of the shoreline of the island is suitable for turtle nesting. The nesting beaches are found primarily along the

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