COMPOSITION OF THE EPIBIOTIC ASSEMBLAGE ASSOCIATED WITH *CARETTA CARETTA* (LINNAEUS, 1758)

Kitsos M.-S. [1] *, Christodoulou M. [1], Arvanitidis Ch. [2], Mavidis M. [1], Kirmitzoglou I. [1], Koukouras A. [1]

[1] Department of Zoology, School of Biology, Aristoteleio University of Thessaloniki, Greece - * akoukour@bio.auth.gr

[2] Institute of Marine Biology of Crete, Iraklio, Crete, Greece

Abstract

Thirty-seven loggerhead turtles washed ashore in northern Greece were sampled. A total of 63 macrobenthic species and 17 species of algae were identified from the material of which 47 macrobenthic species and 13 species of algae are reported for the first time as epibionts of the loggerhead turtle.

Key words: Caretta caretta, epibionts

Introduction

The existing information on the composition of the assemblage associated with *Caretta caretta,* is little known and limited to a rather small number of papers (1-6). The aim of this study is to give new information on the composition of the assemblage associated with the loggerhead turtle.

Materials and Methods

Thirty-seven, loggerhead turtles washed ashore from April 2000 to January 2003 in the northern Aegean Sea were sampled. All epibionts were carefully removed from various parts of the turtle's body and their position recorded. In the laboratory all specimens were identified and counted.

Results and Discussion

The analysis of the collected material revealed the presence, of 63 macrobenthic species (4.824 individuals) as well as the presence of 17 species of algae.

Annelida was the most dominant taxonomic group with 31 species (Fig. 1). Only two previous studies have reported species of Annelida as epibionts of *Caretta caretta* (2, 3). Among Annelida, Polychaeta are represented by the highest percentage (34%; 27 species). Twenty-five of these species are reported for the first time as epibionts of *Caretta caretta*. Oligochaeta and Hirudinea were represented by 3 and 1 species respectively. This is the first time Oligochaeta are reported as epibionts of *Caretta caretta*.

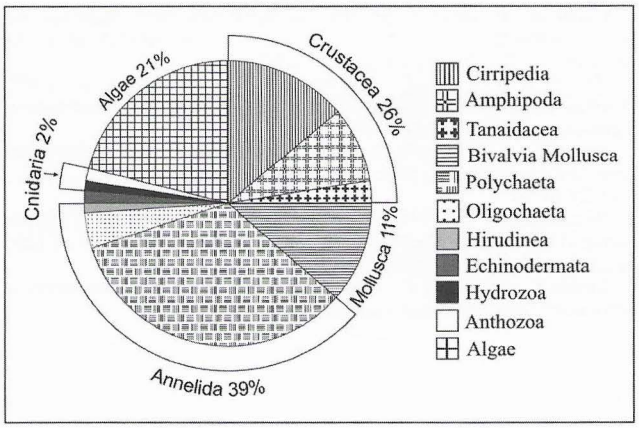

Fig. 1. Participation percentages of the various taxonomic groups in the assemblage associated with *Caretta caretta*.

Crustacea are second in species number (20 species). However, in previous studies this group was reported as the most dominant (2, 3). Among Crustacea, Cirripedia Thoracica had the highest percentage (14%; 11 species). Amphipoda and Tanaidacea were represented by 7 and 2 species respectively. The amphipod *Caprella andrae* Mayer, 1890 was the most abundant species. The tanaidacean *Leptochelia savignyi* (Krøyer, 1842) is reported for the first time as an epibiont of *C. caretta*.

The most abundant species of algae was *Cladophora prolifera* (Roth) Kützing. Of the 17 species found, 13 are reported for the first time as epibionts of *C. caretta*.

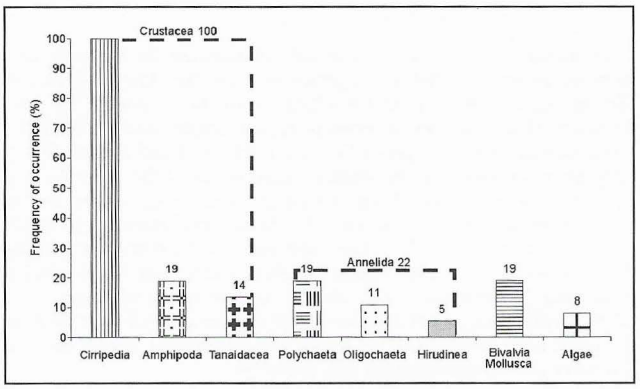

Fig. 2. Frequency of occurrence of the main taxonomic groups of the epibionts of *Caretta caretta*.

Concerning Bivalvia Mollusca (9 species), with the exception of *Ostrea edulis* (Linnaeus, 1758), all other species found, are reported for the first time as epibionts of *C. caretta*.

Crustacea had the highest frequency of occurrence (100%) (Fig. 2) due to the very high value (100%) of the thoracican cirriped *Chelonibia testudinaria* (Linnaeus, 1758). This species has been reported as the most frequent epibiont of the loggerhead turtle (2, 3, 5, 9). The group of Annelida were second, with Polychaeta having the highest percentage. Bivalvia Mollusca had the same frequency percentage with Polychaeta while algae had a low frequency percentage.

Most of the species found, were attached on the peripheral plates of the upper part of the turtle's carapace, while all algae were mainly found in the anterior and posterior part of the upper surface of the carapace.

Concerning the biogeography of all the epibiont species found, 60% are cosmopolitan 31% are Atlanto-Mediterranean and only 9% are endemics. The high percentage of cosmopolitan species should be attributed to the migratory habits of *Caretta caretta*.

References

1 - Frazier, J., D. Margaritoulis, K. Muldoon, C.W. Potter, J. Rosewater, C. Ruckdeschel, S. Salas, 1985. Epizoan communities on marine turtles. I. Bivalve and gastropod mollusks. *Pubbl. Staz. zool. Napoli, (I., Marine ecology),* 6(2): 127-140.

2 - Caine, E.A., 1986. Carapace epibionts of nesting loggerhead sea turtles: Atlantic coast of U.S.A. *Journ. exp. mar. Biol. Ecol.,* 95: 15-26.

3 - Frick, M.G., K.L. Williams, M. Robinson, 1998. Epibionts associated with nesting loggerhead sea turtles (*Caretta caretta*) in Georgia, U.S.A. *Herpetol. Rev.,* 29(4): 211-214.

4 - Abel Sentúes, G., J. Espinoza-Avalos, J.C. Zurita, 1999. Epizoic algae of nesting sea turtles Caretta caretta (L.) and Chelonia mydas (L.) from the Mexican Caribbean. *Bull. Mar. Sci.,* 64(1): 185-188.

5 - Gramentz, D., 1988. Prevalent epibiont sites on Caretta caretta in the Mediterranean Sea. *Naturalista sicil.*, IV, XII (1-2): 33-46.

6 - Kitsos, M.- S., M. Christodoulou, S. Kalpakis, M. Noidou, A. Koukouras, 2003. Cirripedia Thoracica associated with Caretta caretta (Linnaeus, 1758) in the Northern Aegean Sea. *Crustaceana,* 76(4): 403-409.