

DECAPODA CRUSTACEA FAUNA GRADIENT FROM CYPRUS AND THE SOUTH TURKISH COAST TO THE BLACK SEA

T. Tzomos¹*, I. Kirmizoglou¹, N. Chartosia¹, M. Mavdis¹, M.S. Kitsos¹, A. Suat Ateş², T. Özcan³, M. Sezgin⁴, T. Katağan³

¹ Department of Zoology, School of Biology, Aristotle University of Thessaloniki, 541 24, Thessaloniki Greece. - ttzomos@bio.auth.gr

² Department of Marine Biology, Faculty of Fisheries, Çanakkale Onsekiz Mart University, 17100 Çanakkale, Turkey.

³ Department of Marine Biology, Faculty of Fisheries, Ege University, 35100 Bornova Izmir, Turkey.

⁴ Department of Marine Biology, Sinop Fisheries Faculty, Ondokuz Mayıs University, 57000 Sinop, Turkey.

Abstract

Analysis of literature information and the examination of decapod collections permitted the creation of updated checklists of the decapod species from Cyprus, the south Turkish coast, the Aegean and the Black Seas. These checklists are presented and the decapod faunas of these areas are compared in order to assess the gradient of decapod diversity from Cyprus towards the Black Sea. As it results from this study, there is a decrease in the number of lessepsian decapod species from the south Turkish coast towards the Black Sea, implying an attenuation of the lessepsian immigratory current in this direction.

Keywords : *Decapoda, Aegean Sea, Black Sea, Eastern Mediterranean.*

Introduction

There is a significant body of literature providing information on the decapod fauna of the Eastern Mediterranean [reviewed by 1]. The decapod fauna of this area is also enriched with lessepsian immigrants and with Atlantic tropical species that enter the Mediterranean Sea through the Straits of Gibraltar [2].

The aim of the present study is to provide updated checklists and information on the diversity of the decapod faunas of Cyprus, the south Turkish coast, the Aegean and the Black Seas, and assess the gradient of decapod diversity along these certain areas.

Materials and Methods

Based on a detailed review of the relevant literature and the examination of large collections of decapods, collected by different kinds of gears, detailed checklists of the decapod species were created for Cyprus, the south Turkish coast, the Aegean Sea and the Black Sea.

Results and Discussion

Figure 1 demonstrates the distribution of the decapod species number in the certain territorial areas of the Eastern Mediterranean and the Black Sea. Based on Figure 1, data on the Mediterranean water circulation [3] and geographical aspects, the following considerations can be made:

Cyprus (145 decapod species, 6 of these are lessepsian immigrants): In respect of the Cypriot coasts, the number of decapod species is slightly lower to that reported from the south coast of Turkey. Furthermore, the number of lessepsian decapod species is significantly lower in relation to that reported from the south Turkish coast, although Cyprus is located closer to the Suez Canal. This could be mainly attributed to: a) the reduced sampling effort in this area and b) the fact that the Cypriot coasts are considerably distant from the neighboring continental Asian coasts and are surrounded by very deep waters, which possibly prohibit the lessepsian decapod species to reach this area.

South Turkish coast (152 decapod species, 28 of these are lessepsian immigrants): The number of known decapod species is slightly higher than that of Cyprus. Moreover, the known lessepsian decapod species number in this area is much lower than the respective total Mediterranean number (43). This implies an attenuation of the lessepsian immigratory current in this area.

Aegean Sea (263 decapod species, 12 of these are lessepsian immigrants): The total decapod species number of this region is the highest among the studied areas. This could be possibly attributed to the high diversity and complexity of habitats of the Aegean Sea but also to the more intensive sampling effort that has been carried out in this area. The number of lessepsian decapod species is much lower than that from the south Turkish coast, indicating a further attenuation of the lessepsian immigratory current in the Aegean Sea, mainly due to the different hydrographic conditions prevailing in these two regions (e.g., the wider ranges of temperature and salinity of the Aegean Sea).

Black Sea (36 decapod species): The Black Sea demonstrated the lowest species number among the studied areas. This should be mainly attributed to the peculiar oceanographic conditions prevailing in this region, especially the low salinities and temperatures [4]. As it results from the present study no lessepsian decapod species have reached the Black Sea.

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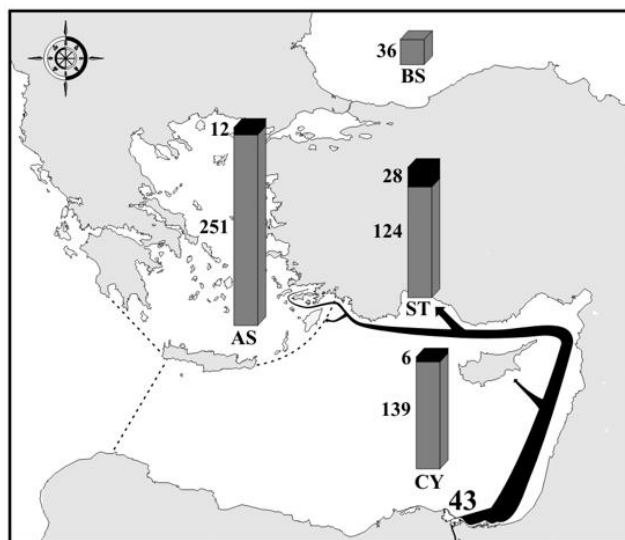


Fig. 1. Known decapod species number in the certain geographical areas of the eastern Mediterranean and the Black Sea. The black part of each column represents the number of lessepsian decapod species known from the certain area. The arrow indicates the movement of the lessepsian decapod species and its width in each area is proportional to the lessepsian species number that has reached this region. At the area of the Suez Canal, the number 43 represents the total number of lessepsian decapod species reported so far from the Mediterranean. CY, Cyprus; ST, South Turkish coast; AS, Aegean Sea; BS, Black Sea.

References

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