

## THE NUTRITION OF DOMINANT COPEPODS IN THE ADRIATIC SEA

Dubravka REGNER and Ivona MARASOVIĆ

Institute of Oceanography and Fisheries, Split, Yugoslavia

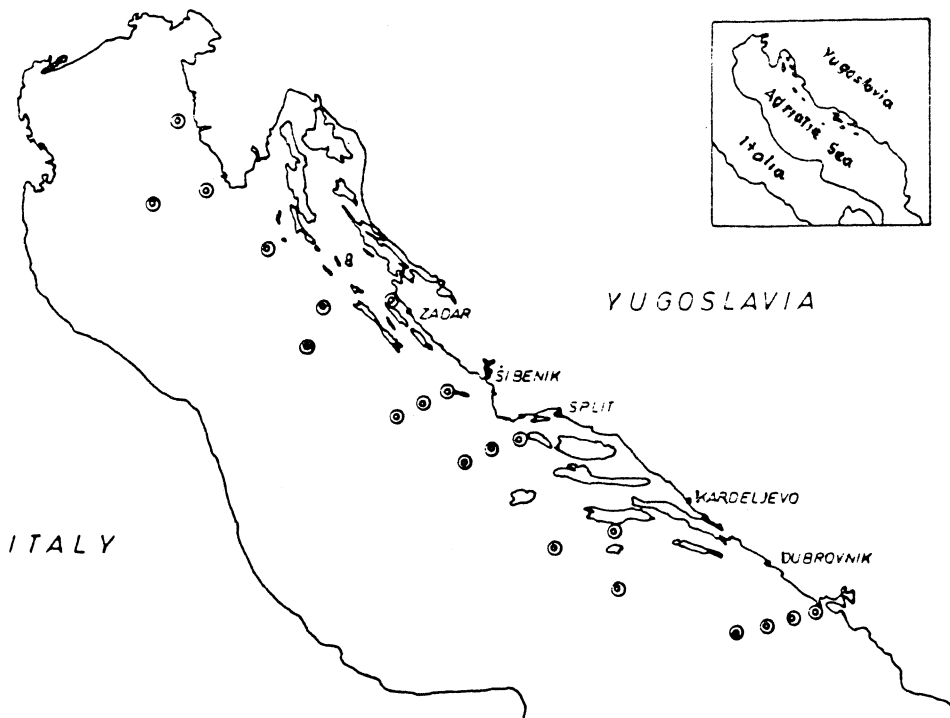
The food composition of dominant copepods in the eastern part of Adriatic Sea is discussed.

This study gives a general picture about the nutrition of dominant copepods in the Adriatic Sea.

The material for our investigations was collected along the entire eastern Adriatic coast, from Rovinj to the Bay of Boka Kotorska, during the winter 1979/1980. The coastal waters, channel region, as well as the open sea were covered with twenty stations of the Yugoslav fish expedition of

m/v "BIOS" (Fig. 1).

Although the copepods communities from the northern shallow and central Adriatic were different from those of the deep southern Adriatic (Hure et al, 1980), as the material was collected from the depths of only 60 m, the differences in composition of the dominant



copepods were not so considerable. This was the consequence of sampling, because the material was collected with "Bongo" net for the fisheries biology purposes. So, the guts contents of the species Acartia clausi, Centropages typicus, Paracalanus parvus, Temora stylifera and Ctenocalanus vanus were analysed from the northern and central Adriatic. In the southern Adriatic besides above-mentioned species, the guts contents of Clausocalanus pergens, Clausocalanus paululus, Lucicutia flavicornis, Euchaeta acuta and Pleuromamma gracilis were examined, too.

The results obtained show, that in the food composition of the copepods from the northern and central Adriatic, the diatoms are prevailing, while in the southern Adriatic the coccolithophorids and naked phagellats are the main components of copepods food. The composition of phytoplankton in the guts contents of copepod species from the northern and central Adriatic (a) was listed in Table 1, together with those from southern Adriatic (b).

Table 1.

a) The composition of phytoplankton in copepods gut contents from the northern and central Adriatic

<i>Coscinodiscus excentricus</i>	<i>Pleurosigma angulatum</i>
<i>Coscinodiscus</i> sp.	<i>Nitzschia seriata</i>
<i>Chaetoceros lorenzianus</i>	<i>Nitzschia</i> sp.
<i>Hemiaulus haucki</i>	<i>Surirella</i> sp.
<i>Licmophora</i> sp.	<i>Exuviaella</i> sp.
<i>Pinnularia</i> sp.	<i>Gymnodinium</i> sp.
<i>Synedra</i> sp.	<i>Pronoctiluca spinifera</i>
<i>Thalassionema nitzschioides</i>	<i>Glenodinium</i> sp.
<i>Thalassiothrix frauenfeldi</i>	<i>Peridinium staini</i>
<i>Navicula maior</i>	<i>Gonyaulax polyedra</i>
<i>Navicula</i> sp.	<i>Gonyaulax</i> sp.
<i>Diploneis crabro</i>	<i>Dichtyocha fibula</i>
<i>Cocconeis</i> sp.	<i>Coccolithophoridae</i> spp.

b) The composition of phytoplankton in copepods gut contents from the southern Adriatic

<i>Melosira sulcata</i>	<i>Dinophysis dens</i>
<i>Melosira</i> sp.	<i>Gymnodinium</i> sp.
<i>Synedra</i> sp.	<i>Coccolithophoridae</i> spp.
<i>Navicula</i> sp.	<i>Carteria</i> sp.
<i>Diploneis crabro</i>	<i>Chlamydomonas fusiformis</i>
<i>Nitzschia bilobata</i>	

So, the food composition of the phytoplankton in the guts of copepods reflects entirely the composition of phytoplankton community of the surrounding environment. This conclusion is confirmed by our earlier investigations of the more restricted parts of the Adriatic coast (Marasović & Regner, 1979; Regner, 1979; Regner & Marasović, 1981).

The analysis of the guts contents of copepods collected from the coastal waters to the open sea were carried out, too. It was found that all over the eastern Adriatic, the percentage of coccolithophorids in the guts contents of copepods increased towards the open sea. This phenomenon also reflects the composition of phytoplankton community in the Adriatic.

Besides, it proved to be that copepods Temora stylifera and Centropages typicus had the most heterogeneous feeding over all areas of the eastern Adriatic coast as it could be seen from the following tables (Tab. 2 and 3). This phenomenon will be the next subject of our investigations.

Table 2. The phytoplankton composition in gut contents of Temora stylifera

<u>Coscinodiscus excentricus</u>	<u>Nitzschia seriata</u>
<u>Coscinodiscus sp.</u>	<u>Surirella sp.</u>
<u>Hemiaulus haucki</u>	<u>Exuviaella sp.</u>
<u>Synedra sp.</u>	<u>Gymnodinium sp.</u>
<u>Pinularia sp.</u>	<u>Peridinium steini</u>
<u>Cocconeis sp.</u>	<u>Gonyaulex polyedra</u>
<u>Diploneis crabro</u>	<u>Syracosphaera pulchra</u>
<u>Navicula maior</u>	<u>Coccolithophoridae spp.</u>
<u>Navicula sp.</u>	<u>Dictyocha fibula</u>
<u>Pleurosigma angulatum</u>	<u>Eutreptiella sp.</u>

Tabela 3. The phytoplankton composition in gut contents of Centropages typicus

<u>Coscinodiscus excentricus</u>	<u>Exuviaella sp.</u>
<u>Coscinodiscus sp.</u>	<u>Gymnodinium sp.</u>
<u>Chaetoceros lorenzianus</u>	<u>Glenodinium sp.</u>
<u>Synedra sp.</u>	<u>Coccolithophoridae spp.</u>
<u>Thalassionema nitzschioides</u>	<u>Dictyocha fibula</u>
<u>Nitzschia seriata</u>	<u>Microflagellata indeterminata</u>

#### Literature

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