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PRELIMINARY REPORT ON FEEDING OF JUVENILE ANNULAR BREAM, DIPLODUS ANNULARIS (L. 1758), (PISCES, SPARIDAE) LIVING IN THE ADRIATIC SEA

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INTRODUCTION: Ecology of juvenile stages of Sparidae in the Adriatic is poorly known. This particularly applies to their feeding habits. Recently, there have been available only the data on feeding habits of juvenile striped seabream, *Lithognathus mormyrus* (L.), from the middle Adriatic (Froglia, 1977; Jardas, 1985). Feeding of juvenile annular bream has not been studied in the Adriatic by now. Food composition of adults was reported in detail by Ara (1937).

This paper presents preliminary results on feeding of juvenile annular bream. Detailed analysis of feeding of this and some other Sparidae is under way.

MATERIAL AND METHODS: A total of 190 gut contents were analyzed. Total length of specimens varied from 26.6 to 71.4 mm, modal value at 49 mm (9.4%), and standard length from 21.1 to 58.7 mm, modal value at 41 mm (10.5%). Length was taken from fixed specimens. Material was collected from the coastal area of the eastern middle Adriatic at depths of about 1 m from May to November 1984.

Annular bream spawn in the eastern Adriatic from June to August (Grubišić, 1962). With respect to this and length analyzed individuals belonged to the 0^+ and beginning of 1^+ years of age.

RESULTS AND DISCUSSION: Food was recorded from the guts of all the analyzed individuals. Guts were full in the majority of cases, which points to the fact that juvenile annular bream feed intensively.

Qualitatively, gut contents were rich in species of plant and animal organisms of different systematic groups. Of plants, guts contained macrobenthic algae and marine phanerogams. Algae were recorded from 124 or 64.9% of the guts. A total of 25 algal and marine phanerogam species were established. Algae of the Rhodophyta group were best represented (13 species or 52.0%), followed by Chlorophyta (9 species or 36.0%), Phaeophyta (2 species or 8.0%) and one species of Spermatophyta (4.0%). With respect to the material as a whole the most frequently occurring algal species were:

Rhodophyta: *Chondria dasyphylla, C. tenuissima, Ceramium diaphanum* and *Polysiphonia* sp.

Chlorophyta: *Cladophora* sp., *Enteromorpha prolifera, E. flexuosa, E.torta* and *E. multiramosa.*

E. flexuosa (in 69 guts or 55.6%) and *E.prolifera* (in 62 guts or 50.0%) were most frequent in the guts.

Animal food was recorded from 173 or 90.6% of the guts. Even though animal component appeared to be more frequent in this sense, algae were quantitatively more important. Of animal species the following were established: Anthozoa (51.2%), Polychaeta (0.8%) and Crustacea (46.5%). The remainder (1.5%) were eggs (vague) and undetermined organisms. Hydrozooids (48.5%) constituted the bulk of Anthozoa. The Crustacea groups were: Ostracoda, Phyllopoda, Copepoda, Amphipoda, Cumacea (larvae), Mysidacea (larvae) and Decapoda (larvae). Of mentioned groups adult and developmental stages of Copepoda (28.9%) occurred in greatest numbers, of which Harpacticoida (about 26.5%) were most numerous. Apart from Copepoda, Amphipoda (8.5%) and Ostracoda (6.5%) made up a significant proportion.

These preliminary results show juvenile annular bream to be an omnivorous species with pronounced preference of macrobenthic algae. Thus the phytophagous character of their feeding is rather marked and even more so since some of the animal groups very likely reached the guts exclusively through plant food (e.g.Anthozoa).

As distinct from the juveniles, adult annular bream are markedly carnivorous. Ara (1937) reported Vermes (Annelides, Gephyrei), Mollusca (Gastropoda, Lamellibranchia), Crustacea (several groups) and Echinodermata (Asteroidea, Ophiuridea, Echinoidea) from the guts of adult specimens.

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RÉSULTATS PRÉLIMINAIRES SUR LA NOURRITURE DES PRINCIPAUX POISSONS DE LA MER ÉGÉE CENTRALE PENDANT LES ANNÉES 1977-1980

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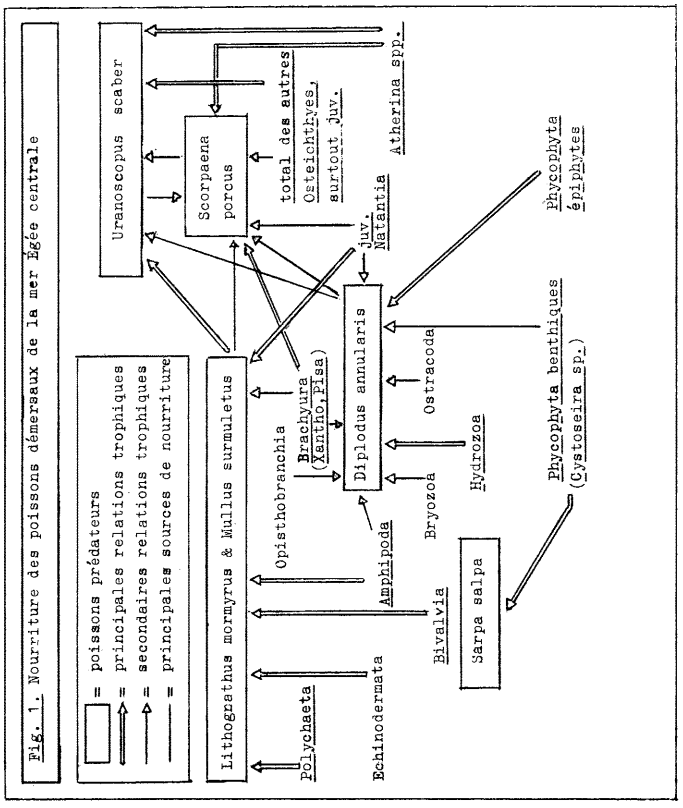

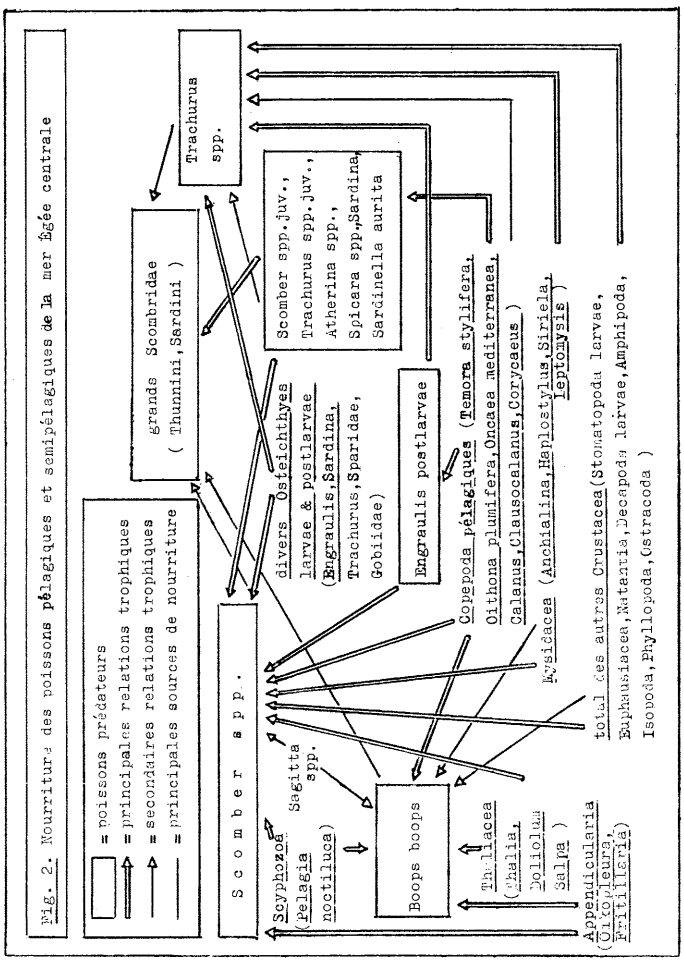

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