DIET COMPOSITON AND FEEDING INTENSITY OF BROWN MEAGRE *SCIAENA UMBRA* LINNAEUS, 1758 (SCIAENIDAE) IN THE GULF OF TUNIS

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INTRODUCTION

- The study of feeding habits of fish contributes to the knowledge on intra-and interspecific trophic relationships and thus leads to a better understanding of the structure and dynamics of marine communities (Silva, 1999). When commercially exploited species are involved, as predators and/or as main prey species, the study of their feeding habits is a basic step for multispecies assessment approaches.
- in the present study, diet composition and feeding intensity of the brown meager (*Sciaena umbra*, Linnaeus, 1758), of the gulf of Tunis, was realised seasonally and according to the fish size.

Sciaena umbra, Linnaeus, 1758

MATERIAL AND METHODS

- The data used in this study were collected monthly from the landings of the small-scale fisheries in the Gulf of Tunis (Fig.1) between October 2008 and September 2011. The specimens observed were measured to the nearest centimetre and weighted to the nearest gram.
- The Vacuity Index (VI) was calculated for the whole sample, seasonally and in relation to predator size.
- The main food items were identified using the Index of Relative Importance (IRI) (Pinkas *et al*., 1971) as modified by Hacunda (1981).
- To assess for possible differences in diet with respect to size, fish were divided into two size classes: small (TL≤ 25 cm) and large (TL >25 cm)

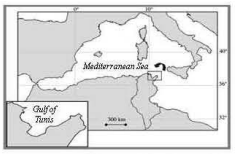

Fig. 1. Sampling area in the Gulf of Tunis (Tunisia)

RESULTS AND DISCUSSION

❑ FEEDING INTENSITY

- Of the total 272 stomachs examined, 118 were empty: VI% = 43.4%.
- Feeding intensity during the four seasons and in relation to fish size are presented in Figure 2 and 3.

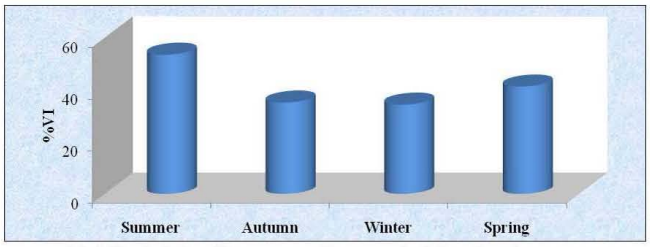

Fig.2. Vacuity index of Brown meagre (*Sciaena umbra*) throughout the seasons

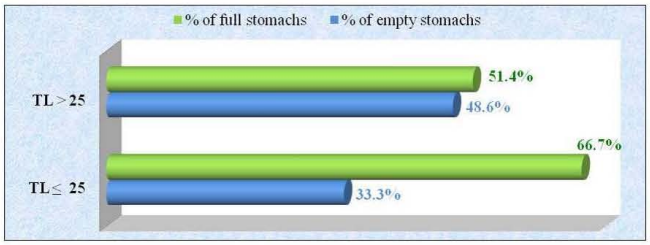

Fig.3. Vacuity index of Brown meagre in relation to fish size

❑ DIET COMPOSITION

- The prey items identified in stomachs belong to six groups: Crustacea, Annelida, Mollusca, Teleostei, Angiosperma and Algae.
- Crustaceans were the most important prey constituting 99% of the total IRI (Fig. 4). Among the crustaceans, decapods were the most important contribution to the diet (% IRI = 96.2 %). The relative importance of amphipods and isopods was compartively low and of less importance (Fig. 5).

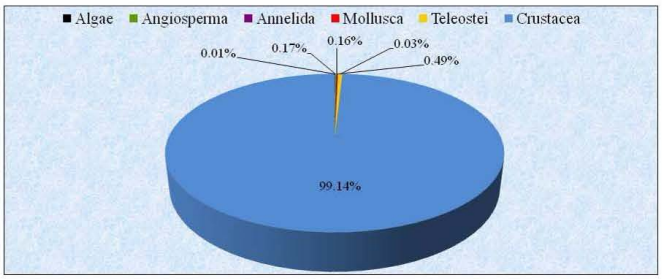

Fig.4. Diet composition of *Sciaena umbra* based on %IRI values

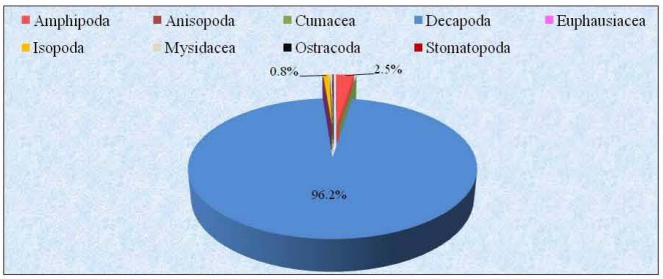

Fig.5. Composition of crustacean prey group based on % IRI values

❑ DIET IN RELATION TO FISH SIZE

- Decapods were the most important prey group in the small and large size (Fig. 6). The IRI of amphipods and isopods decreased with fish size, whereas the IRI of teleosts increased.

❑ SEASONAL VARIATION IN THE DIET COMPOSITION

- Decapods were the dominant prey group in all seasons (% IRI > 85%) (Fig. 7). Amphipods came second in order of importance in winter and spring. Teleosts and isopods were present in the stomachs all the year with a peak value recorded, respectively, in autumn and summer.

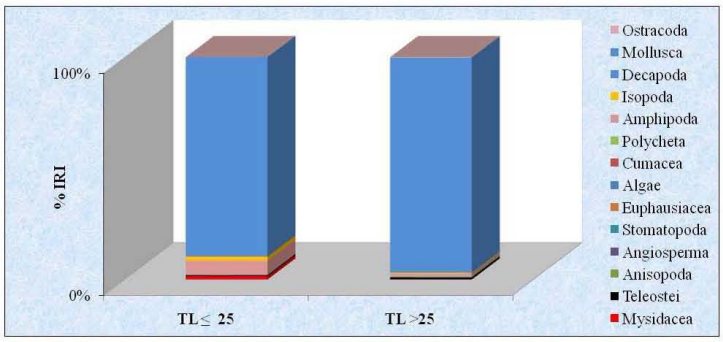

Fig.6. Diet composition of Brown meagre in relation to fish size

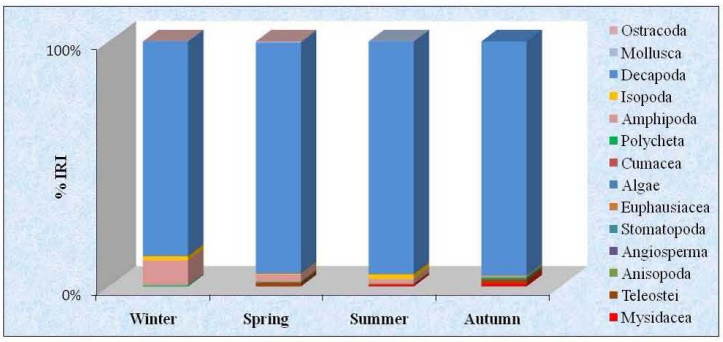

Fig.7. Seasonal variations of diet compositon of Brown meagre

- Diet of *S.Umbra* was caracterized by benthic organisms and dominated by decapods. The other groups showed a very low importance in the diet of this species.
- These results agree with studies previously found by others authors.

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