

{rokbox title=|Diplodus vulgaris and Pagellus erythrinus :: Image: Authors|
thumb=|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-condiciones-nutricionales-peces-de-roca-amps-viladrich-et-al-2015-thumb.jpg|}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-condiciones-nutricionales-peces-de-roca-amps-viladrich-et-al-2015.jpg{/rokbox}

Núria Viladrich, Sergio Rossi, Angel López-Sanz and **Covadonga Orejas**, 2015. [Nutritional condition of two coastal rocky fishes and the potential role of a marine protected area](#). Marine Ecology. doi: 10.1111/maec.12247.

Abstract: Knowledge of the nutritional conditions of coastal commercial fish populations is key to understanding stock health status, and is essential when making reasonable exploitation and management plans. Here, we present the first results on the condition and feeding preferences of two coastal fish species, *Diplodus sargus* (Linnaeus, 1758) and *Pagellus erythrinus* (Linnaeus, 1758). Using stable isotope and biochemical analyses, we tested the potential effects of a marine protected area (MPA) and the occurrence of a dramatic coastal storm on the condition and quality of nutrition. The results suggest that both condition (lipids) and nutrition quality (fatty acids, FAs) in

P. erythrinus

and

D. sargus

depend upon on food availability in the area in which they were captured.

Pagellus erythrinus

individuals inside the MPA stored higher quantities of lipids [$46.73 \pm 19.00 \mu\text{g lipid}\cdot\text{mg organic matter (OM)}^{-1}$] than those outside the MPA ($15.63 \pm 5.30 \mu\text{g lipid}\cdot\text{mg OM}^{-1}$) only before the storm.

Diplodus sargus

showed different FA signatures inside and outside the MPA before and after the storm. These results suggest that

D. sargus

increased their quality of nutrition inside ($16.62 \pm 3.17 \mu\text{g FA}\cdot\text{mg OM}^{-1}$) versus outside ($7.88 \pm 2.36 \mu\text{g FA}\cdot\text{mg OM}^{-1}$) the MPA, owing to increased food diversity and availability. Conversely,

P. erythrinus

did not show differences in nutritional quality inside ($18.12 \pm 1.13 \mu\text{g FA}\cdot\text{mg OM}^{-1}$) or outside ($18.81 \pm 1.42 \mu\text{g FA}\cdot\text{mg OM}^{-1}$) the MPA, possibly because of the increase in ingestion not affecting the studied parameters. In

P. erythrinus

, the FA concentration decreased after the storm, but in

D. sargus

, a change in lipid composition was observed. These results suggest that

P. erythrinus

appears to be more impacted by food quality (different saturated and unsaturated FAs) than

D. sargus

, owing to a more restrictive diet. We hypothesize that the observed differences between inside and outside the MPA are not only related to the degree of protection, but also to the feeding preferences and behaviour of both fishes.

Keywords: Fatty acids, fish condition, marine protected areas, stable isotopes, stochastic phenomenon, storm