

{rokbox title=[Scheme of the experimental aquarium :: Image: Authors]
thumb=[images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-visual-habitat-selection-juvenile-fish-seagrass-castro-fernandez-et-al-2024-thumb.jpg]}images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-visual-habitat-selection-juvenile-fish-seagrass-castro-fernandez-et-al-2024.jpg{/rokbox}

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Abstract: Seagrass meadows fulfil an essential ecosystem service by providing nursery habitats to various fish species. However, the habitat features driving this function remain insufficiently explored. Nevertheless, this knowledge is essential to quantify the ecosystem service provision, inform restoration efforts, and address the impact of habitat loss and fragmentation on this key coastal habitat. In this study, habitat selection experiments were conducted with 2

Mediterranean juvenile fish species (the East Atlantic peacock wrasse *Symphodus tinca* and the

annular seabream

Diplodus annularis

), usually associated with

Posidonia oceanica

beds, to evaluate if they actively select seagrass habitats based on their structural complexity.

Juvenile fish movement was recorded and tracked when visually exposed to multiple artificial habitat configurations within an experimental aquarium to determine the proportion of time spent near each habitat. Both species exhibited a clear affinity towards vegetated (seagrass mimics) habitats in comparison to unvegetated areas, demonstrating that juveniles distinguished and actively selected habitats using visual cues. However, they presented different responses in their occupancy patterns to increasing complexity of seagrass mimic habitats. While

D. annularis

responded positively to increases in complexity,

S. tinca

did not. These affinity variations between species suggest that differences in juvenile abundance between habitats found in previous field studies may be partially conditioned by active habitat choices. Understanding how different species respond to changes in seagrass structure is crucial for quantifying their nursery provision service. Moreover, this knowledge is essential to assess their potential vulnerability to seagrass loss in the context of environmental

changes in the Mediterranean.

Keywords: Seagrass mimic meadows, Nursery habitats, Nursery provision, Ecosystem services, Juvenile fish behaviour