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Authors|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-scope-for-growth-vazquez-2022-thumb-et-al.jpg|images/stories/ieo/imagenespublicaciones/centro-oceanografico-baleares-ieo-csic-scope-for-growth-vazquez-2022-et-al.jpg{/rokbox}

S. Hernandis, I. Ibarrola, J. Tena-Medialdea, **M. Vázquez-Luis**, J. R. García-March, P. Prado and M. Albentosa, 2022. [Scope for growth and dietary needs of Mediterranean Pinnids maintained in captivity.](#) BMC Zoology. Volume 7. Article number 43 (2022). <https://doi.org/10.1186/s40850-022-00141-w>

Abstract:

Background

The measurement of the energy available for growth (scope of growth, SFG) can be used in bivalves to make a long-term prediction in a short-term experiment of the condition of the individual. In order to tackle the best conditions for captive maintenance of Mediterranean Pinnids, a SFG study was conducted using *Pinna rudis* as a model species. Three diets were examined to test the viability of live microalgae and commercial products: i) a control diet using 100% of live microalgae based on the species *Isochrysis galbana* (t-ISO), ii) a 100% of commercial microalgae diet based on the product Shellfish Diet 1800®, and iii) a 50/50% mix diet of *I. galbana* (t-ISO) and Shellfish Diet 1800®.

Results

SFG results showed significant differences among diets in the physiological functions measured and suggested lower acceptability and digestibility of the commercial product. Negative SFG values were obtained for the commercial diet which indicates that it should be rejected for both Pinnid maintenance. The mixed diet showed improved physiological performance compared to the commercial diet, resulting in a higher SFG that had no significant differences with the control diet. However, in the long-term, the lower digestibility of the mixed diet compared to the control diet could lead to a deterioration of individuals' conditions and should be considered cautiously.

Conclusions

This work represents the first case study of SFG in *Pinna spp.* and provides fundamental data on dietary needs for the critically endangered species, *P. nobilis*

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Keywords: Fan mussel, Scope for growth, Physiological energetics, Micro-algae concentrates.