

{rokbox title=|Merluccius senegalensis :: Foto: A. M. Arias (ICTIOMED)|
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J. Rey, L. Fernandez-Peralta, L. F. Quintanilla, **M. Hidalgo**, C. Presas, F. Salmeron and M. A. Puerto, 2015.

[Contrasting energy allocation strategies of two sympatric *Merluccius* species in an upwelling system](#)

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Abstract: This study investigated the somatic growth and energy allocation strategy of two sympatric hake species (*Merluccius polli* and *Merluccius senegalensis*), coexisting under the strong influence of the Mauritanian upwelling. The results revealed that ontogeny, bathymetry, geography and reproduction shaped the differences found between the condition dynamics of the two species. Aside from species-specific differences, individuals were observed in better condition in the northernmost area (more influenced by the permanent upwelling) and in the deepest waters, probably the most favourable habitat for

Merluccius spp

. Both species also displayed contrasting trade-offs in energy allocation probably due to the dissimilarity of their habitats, which favours the existence of divergent adaptive strategies in response to different ontogenic requirements. It was hypothesized that

M. polli

invests in mass and energy reserves while sacrificing growth, as larger sizes may not provide an ecological advantage in a deeper and more stable environment. Moreover,

M. senegalensis

capitalizes on a steady growth without major disruptions, enabling earlier spawning at the expense of a lower somatic mass, which is fitting to a less stable shallower environment. This study sheds new light on differences in the biological traits and life strategies of *Merluccius spp.*, which permit their overlap in a complex upwelling system and may contribute to the long-lasting scientific-based management of these species.

Keywords: black hakes, condition indices, energy trade-offs, *M. senegalensis*, Mauritania, *Merluccius polli*