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Andrew F. Johnson, **Maria Valls**, **Joan Moranta**, Stuart R. Jenkins, Jan G. Hiddink, Hilmar Hinz, (2012). [Effect of prey abundance and size on the distribution of demersal fishes.](#)

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Abstract: Many demersal fish species rely on benthic prey as food sources for part of, or in some cases, all of their life history. We investigated the relationships between prey and predator abundance and prey size and predator mouth gape size for nine demersal fish species. Of the species analysed, four showed a significant positive increase in abundance with increasing prey abundance. Prey size is thought to be an important parameter for demersal fish that are limited in their feeding potential by their mouth gape size, as it influences consumption rate and energy expenditure while foraging. The relationship between prey size and mouth gape was investigated using both stomach content data and prey availability data. Stomach content analysis revealed positive relationships between maximum prey size and predator mouth gape size for six of the species. Indications of prey size selectivity were only seen in the environment for European hake (*Merluccius merluccius*), highlighting the potential importance of prey size over prey abundance for this species. The results demonstrate that prey abundance and size are of significance for some demersal fish species feeding primarily on benthos and will help in defining habitat requirements of demersal fish species.

Keywords: