

Interactive comment on “The snails’ tale at deep-sea habitats in the Gulf of Cadiz (NE Atlantic)” by L. Génio et al.

Anonymous Referee #2

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I find this ms rather frustrating as though there is evidence it has been rewritten from the original there has been no account of the comments I made in my original brief review. Broadly I like the paper and the authors show they have some very sound data on the distribution of gastropods in the Gulf of Cadiz. Their interpretation of the depth variation in the distribution of gastropods is but could have been reinforced by citing Ron Etter’s paper on depth variation in molluscs (Etter & Rex 1991 DSR 37:1251-1261 and Etter et al. 2005 Evolution 59: 1479-1491). However, I do not think the authors have really thought through the concept of dispersal. Distance dispersed in one generation is larval life length times current flow. This emphasises one of the main problems in categorising larval types. There has always been the assumption that planktotrophic larvae disperse the greatest distance and this may be the case in nutrient rich shallow water (but still very debatable). In an oligotrophic environment

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such as the deep sea lecithotrophic planktonic development is most likely to give the widest dispersal because of the maternal investment in yolk for the developing embryo. This has been beautifully demonstrated by Shilling and Manahan 1994 BiolBull 187: 398-407 (but regularly ignored) who demonstrated that planktonic lecithotrophs may have the widest dispersal but that this may be partially counterbalanced by the greater predation risk (see also Young et al. 1997 Biodiversity and Conservation 6, 1507-1522). Current speed and direction should also be taken into account as should the ‘age’ of the species based on the premise that a ‘long’ lived species with planktonic development may have a much wider distribution than a species with a ‘young’ age and benthic development for example. I feel the authors have not really produced a balanced account taking these factors into their argument and it appears rather superficial. I should say this is not unique to them! In my original comments I also took issue with the use of the term ‘strategy’ which they continue to use although it is the wrong usage. A ‘strategy’ is a thought-out process whereas all the reproductive, feeding or behavioural patterns in marine invertebrates are a result of stochastic evolution with no thought involved. The word to use is ‘adaptation’ or ‘pattern’. It is very unfortunate that this word has crept in from the American literature where, I presume, it sounds very buzzy! (See Vance 1973 American Naturalist)

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